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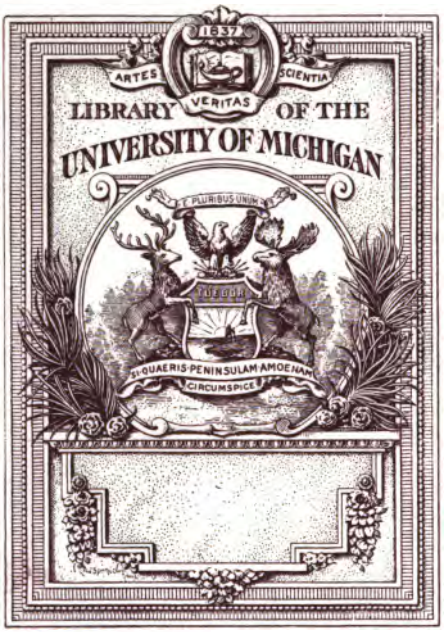

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WISCONSIN

State Agricultural Society

TRANSACTIONS.

INCLUDING ADDRESSES AND PAPERS PRESENTED AT THE FARMERS' STATE CONVENTION HELD IN FEBRUARY, 1890, IN THE CAPITOL, AT MADISON.

VOL. XXVIII.

T. L. NEWTON, Secretary.

MADISON, WISCONSIN:
DEMOCRAT PRINTING COMPANY, STATE PRINTERS.
1890.

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LETTER OF TRANSMITTAL

OFFICE OF
SECRETARY OF STATE AGRICULTURAL SOCIETY,
CAPITOL, MADISON, WIS.

To His Excellency Honorable W. D. HOARD,
Governor of Wisconsin.

The legislature of 1854 makes it incumbent upon the Secretary of the State Agricultural society to yearly transmit to the governor a detailed statement of the transactions and financial standing of the society. In compliance with the same I have the honor of submitting herewith the report of 1890.

The Fair of 1889 showed a marked improvement in number of exhibits in nearly every department over preceding years, especially so in fruits and field products. They make us proud of Wisconsin.

The attendance was not as large as usual, owing to the Military Encampment which preceded it by only three weeks, and the extremely cold weather for the season.

Wisconsin has in its state fair a true representative of its people, its soil and its climate.

A gentleman in attendance at the last fair, who had also attended the first state fair held at Janesville in 1851, said: "This fair shows the educational influence of organized efforts. Credit is not only due the State Agricultural society but all kindred state associations."

The Farmers' Annual Convention held in February 3 to the 7th, was made a joint convention of the Wisconsin State Agricultural society, Wisconsin State Dairymen's association, Wisconsin State Horticultural society, Wisconsin Farm Institute workers, Guernsey and Jerseys, Short-horn, Sheep, Swine and Morgan Horse Breeders' association and Poultry

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and Bee Keepers. Each society's session was presided over by its own president; the result was a greatly increased interest in the convention. The papers and discussions were of a high order and embraced a range of thought and experience that showed Wisconsin farmers have mastered the problems of successful agriculture.

Your interest in and efforts for the success of this society's fair and conventions and your never failing zeal in laboring for the advancement of the farmers' every interest, makes me assured in the belief that this report will be favorably received.

For the Executive Board.

T. L. NEWTON,
Secretary W. S. A. S.

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EXECUTIVE BOARD

OF THE

STATE AGRICULTURAL SOCIETY.

JOHN L. MITCHELL, PRESIDENT	Milwaukee.
T. L. NEWTON, SECRETARY	Beaver Dam.
CYRUS MINER, TREASURER	Janesville.
C. M. SANGER, EX-PRESIDENT	Waukesha.

Vice Presidents.

SETH FISHER	Center.
H. D. HITT	Oakfield.
G. G. COX	Mineral Point.
WM. WILSON	Wausau.
J. M. SMITH	Green Bay.
A. W. VAUGHN	Lodi.
J. M. TRUE	Baraboo.
A. A. ARNOLD	Galesville.
JAS. G. BOYD	Milwaukee.

Additional Members.

E. BEAUMONT	Waukesha.
H. C. ADAMS	Madison.
D. J. SPAULDING	Black River Falls.
A. C. PARKINSON	Columbus.
N. D. FRATT	Racine.
S. D. HUBBARD	Mondovi.
C. M. CLARK	Whitewater.
PROF. T. C. CHAMBERLIN	Madison.
PROF. E. A. BIRGE	Madison.

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LAWS RELATING TO THE SOCIETY.

The Wisconsin State Agricultural Society was organized March 8, 1851, and incorporated by

CHAPTER 5, LAWS OF 1883.

Section 1. The Wisconsin State Agricultural Society is hereby deslared a body politic and corporate, and by that name it shall be known in all courts and places whatsoever.

Section 2. The objects of the society being to promote and improve the condition of agriculture, horticulture and the mechanical, manufacturing and household arts, it shall be allowed for those purposes only, to take, hold and convey real and personal estate; the former not exceeding ten thousand dollars.

Section 3. The said corporation shall possess all the powers and privi leges conferred, and be subject to all the liabilities imposed upon corporations by the revised statutes of this state, so far as the same may be applicable.

Section 4. For the purpose of organizing said society under this charter and for the transaction of such other business as may come before it, the executive committee of the society may call a meeting of the same at such time and place as they may deem proper; first giving due notice thereof.

CHAPTER 40, LAWS OF 1854.

Section 2. It shall be the duty of the executive committee of said Wisconsin State Agricultural Society, to keep an accurate account of the manner of expenditure of said sum of money hereby appropriated, and transmit the same, together with the vouchers therefor, to the governor of the state, in the month of January in each year, to be by him laid before the legislature.

Section 3. It shall be the duty of said executive committee of the Wisconsin State Agricultural Society to collect, arrange and collate all information in their power, in relation to the nature, origin and preparation of soils; the cultivation and growth of crops; the breeding and management of stock; the application and character of manures and fertilizers; the introduction of new cereals and other grains; and other agricultural subjects, and report the same, together with a statement of their own proceedings, to the governor of this state, in the month of January, in each year, to be by him laid before the legislature.

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CHAPTER 53, LAWS 1858.

Section 3. The principal officers of the Wisconsin State Agricultural Society shall have full jurisdiction and control of the grounds on which the Society may exhibit, and all of the streets and alleys and other grounds adjacent to the same, during all such exhibitions, so far as may be necessary to preserve and keep good order, and so far as may be necessary to exclude therefrom all other exhibitions, booths, stands, or other temporary places for the retail or sale of any kind of spirituous or fermented liquors or other article or articles that they might deem objectionable or offensive to said exhibition. The President of the Society, or in his absence, any Vice President, acting in his stead, shall have the power to appoint any necessary policemen to assist in preserving the peace, quelling any disturbance or arresting offenders, and conveying them to jail for trial; and all such policemen thus appointed shall be vested during the continuance of such exhibition with the ordinary powers and authority of common constables, and be entitled to similar fees for any services rendered or duty performed. Any person or persons who shall willfully and without leave enter any fair grounds during an exhibition, that are duly enclosed with a proper fence, not less than six feet high, either by climbing over, or under, or through said fence, or by fraudulently receiving and using the tickets or badge of another, or passing the gate-keeper without the proper payment and compliance with the rules of said grounds, shall be deemed guilty of a misdemeanor, and upon conviction thereof before any court, shall be liable to a fine of not less than five nor more than twenty-five dollars; and in case of non-payment, to imprisonment in the county jail not less than one nor more than ten days. Any such offender may be tried before any justice of the peace, or police justice most convenient to be found.

JOINT RESOLUTION NO. 7, SESSION LAWS OF 1866.

Resolved by the assembly, the senate concurring, That the rooms on the north side of the west wing of the capitol, to-wit: The rooms just made vacant by the removal of the attorney general, and the superintendent of public instruction, be prepared by the superintendent of public property, for the use of the Wisconsin State Agricultural Society, and that the said society be and hereby is allowed the use of the same until otherwise ordered by the legislature.

CHAPTER 95, LAWS OF 1870.

Section 1. Joint stock associations formed under the laws of this state for the encouragement of industry by agricultural and industrial fairs and exhibitions, may purchase and hold such real and personal property as shall be necessary for fair grounds, and such property while used exclusively for such fairs and exhibitions, shall be free from taxes. Provided, that the quantity of the land so exempt shall not exceed forty acres.

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CHAPTER 159, LAWS OF 1875.

Section 2. The superintendent of public property is hereby authorized to furnish the office of the Wisconsin State Agricultural Society with stationery upon the order of the secretary of said society, the same as other officers in the capitol are supplied.

CHAPTER 65, LAWS OF 1877.

Section 1, provides: That nothing in this act shall be construed to prevent any citizen of any other state from becoming a member or officer of any agricultural society or industrial association which is now organized or may hereafter be organized under or by virtue of any law of this state.

CHAPTER 219, LAWS OF 1877.

AN ACT to donate the cereals and other centennial exhibits made by the state, to the State Agricultural Society.

Section 1. The cereals and other seeds and glass globes in which said cereals and seeds were exhibited by the state at the centennial exposition; one agricultural map of the state; one case samples fine wool; one picture of the state capitol, and three pictures of centennial buildings, are hereby donated to the above named society, to be by them kept in the agricultural rooms in the capitol.

CHAPTER 199, LAWS OF 1880.

Section 1. The secretary of the State Agricultural Society is hereby authorized to procure for the use of his office the necessary amount of postage stamps or stamped envelopes for the payment of the postage of the official correspondence of his department. The account therefor shall be audited by the secretary of state upon the presentation thereof in the manner hereinbefore provided, and paid out of the state treasury.

CHAPTER 194, LAWS OF 1885.

Section 1. There is hereby annually appropriated to the Wisconsin State Agricultural Society the sum of four thousand dollars. *Provided*, that no warrant shall be drawn by the secretary of state for the payment of the sum of money hereby appropriated, except upon the presentation of a sworn statement, signed by the president and secretary of the said Wisconsin State Agricultural Society, certifying that the sale of intoxicating liquors has been prohibited and prevented upon the fair grounds of said Society during the year for which the appropriation is made.

Section 2. It shall be the duty of the several agricultural societies entitled to the state aid of one hundred dollars in this state, to send their president or other representative to the state fair, where the annual election of officers is held, there to act on committee of award, and to cast the vote for the county in the aforesaid election.

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Section 3. On arrival of the president or other representative at the state fair he shall report to the secretary thereof, and on the certificate of the secretary of his attendance and performance of the duties named in section 2 of this act, the treasurer shall pay to him two dollars per day for the time he has been in attendance, not exceeding five days, and six cents per mile, one way, over the nearest traveled route from his home to the place where the state fair is held.

Section 4. This act shall take effect and be in force from and after its passage.

CHAPTER 423, LAWS OF 1889.

AN ACT to appropriate to the Wisconsin State Agricultural Society ten per cent. of its paid premiums.

Section 1. There is hereby annually appropriated to the Wisconsin State Agricultural Society ten per centum of its paid premiums.

Section 2. On the presentation of the sworn statement of the Secretary of said Society, setting forth the amount due each year under this act, the secretary of state shall issue his warrant for the same which shall be paid by the state treasurer out of any money in the state treasury not otherwise appropriated.

CHAPTER 526, LAWS OF 1889.

AN ACT to provide for and regulate the printing, binding and distribution of the reports of state officers, departments, institutions and societies.

Section 5. And further, there shall be printed annually upon the approval and order of the commissioners of public printing, ten thousand copies of the transactions of the Wisconsin State Agricultural Society, the same to embrace the reports of the county and other agricultural societies, and such matters pertaining to the agricultural industries of the state as shall be deemed important, provided the whole number of printed pages shall not exceed four hundred. Seven thousand copies of the transactions of the Wisconsin State Horticultural Society; the same to embrace such abstracts of reports of county and other horticultural societies, and such matters pertaining to the horticultural interests of the state as shall be deemed important, provided that the whole number of printed pages shall not exceed two hundred. Eight thousand copies of the transactions of the State Dairymen's Association, the same to embrace such other matters pertaining to the dairy interests of the state as shall be deemed essential, provided that the whole number of printed pages shall not exceed two hundred. Twelve thousand copies of the report of the Agricultural Experiment station of the state university, provided that the whole number of printed pages shall not exceed two hundred and fifty. Two thousand copies of each of said reports to be bound separately in cloth, all others singly in paper.

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Section 6. The reports provided for in the preceding section shall be distributed as follows, through the superintendent of public property: Fifteen copies to each member of the legislature, fifty copies to the State Historical Society, ten copies to each county agricultural society and district industrial association, which embraces two or more counties and furnishes the State Agricultural Society a report of its proceedings, to each of the four societies named in the preceding section, fifty copies of the reports of the other three societies, twenty-five copies of each of the reports to the library of the state university, to the governor, lieutenant-governor, secretary of state, state treasurer, attorney-general, state superintendent of public instruction, railroad commissioner and insurance commissioner twenty-five copies each; to the state superintendent of agricultural institutes, fifty copies; to the superintendent of public property, commissioner of labor statistics, adjutant-general, quartermaster-general, state board of health, each ten copies; to each public library in the state two copies; to each state normal school two copies; to each of the state charitable and penal institutions, one copy; and the remaining copies to the respective societies for distribution by their secretaries.

Section 7. In no case shall the number of printed pages in any report provided for the act exceed the maximum number specified, except upon written request of the officer submitting the same, and then only upon previous written approval of a majority of the commissioners of public printing, such application and approval to be filed with the secretary of state.

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CONSTITUTION.

ARTICLE I.

OF THE NAME AND OBJECT OF THE SOCIETY.

This Society shall be known as the "Wisconsin State Agricultural Society." Its object shall be to promote the advancement of agriculture, horticulture, and the mechanical and household arts.

ARTICLE II.

OF THE MEMBERS.

The Society shall consist of life members, who shall pay, on subscribing, twenty dollars, and of honorary and corresponding members, who shall be elected by a two-thirds vote of all the members of the executive board, at any regular meeting. The presidents of county agricultural societies shall be members *ex-officio*, entitled to the same privileges as life members, and together, shall be known as the general committee of the Society.

ARTICLE III.

OF THE OFFICERS.

The officers of the Society shall consist of a president, one vice-president for each congressional district of the state, a secretary, a treasurer, and seven additional members, who shall hold their respective offices for a term of one year from the first day of January next succeeding the date of their election, and until their successors shall have been elected, and all of whom, together with the ex-presidents latest in office, and the president and general secretary of the Wisconsin Academy of Sciences, Arts and Letters, shall constitute the Executive Board.

ARTICLE IV.

OF THE POWERS AND DUTIES OF OFFICERS.

The presidents and vice-presidents shall perform such duties as are common to such officers in like associations, as may be required by the Executive Board.

The secretary shall keep the minutes of all meetings, and have immediate charge of the books, papers, library, and collections, and other property of the Society. He shall also attend to its correspondence, and prepare and superintend the publication of the annual report of the Society, required by law.

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The treasurer shall keep the funds of the Society and disburse the same on the order of the president, or a vice-president, countersigned by the secretary, and shall make report of all receipts and expenditures at the regular meeting of the Society in December.

The executive board shall have power to make suitable by-laws to govern the action of the several members thereof. They shall have general charge of all the property and interests of the Society, and make such arrangements for the holding and management of general and special exhibitions as the welfare of the Society and the interests of industry shall seem to require.

The general committee shall be charged with the interests of the Society in the several counties where they respectively reside, and constitute a medium of communication between the executive board and the public at large.

ARTICLE V.

OF MEETINGS AND ELECTIONS.

The annual meeting of the Society for the transaction of general business, shall be held in its rooms at Madison, on the first Wednesday in December, at nine o'clock A. M., in each year, and ten days' notice thereof shall be given by the secretary in one or more papers printed in the city of Madison.

The election of officers of the Society shall be held each year during and at the general exhibition, and the exact time and place of the election shall be notified by the secretary in the official list of premiums, and in all the general programmes of the exhibition.

Special meetings of the Society will be called by order of the executive board, on giving twenty days' notice in at least three newspapers of general circulation in the state, of the time, place and object of such meetings.

At any and all meetings of the Society, ten members shall constitute a quorum for the transaction of business, though a less number may adjourn from time to time.

ARTICLE VI.

OF AMENDMENTS.

This constitution may be amended by a vote ot two-thirds of the members attending any annual meeting; all amendments having been first submitted in writing at the previous annual meteing, recorded in the minutes of the proceedings, and read by the secretary in the next succeeding meeting for the election of officers. All amendments proposed shall be subject to amendment by a majority vote at the meeting when presented, but not thereafter.

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BY-LAWS.

SECTION I.

OF OFFICERS.

The officers of the society shall, *ex officio*, fill the corresponding offices in the Executive committee.

SECTION II.

OF THE DUTIES AND POWERS OF OFFICERS.

The duties of the President, in addition to those defined by the constitution and the by-laws regulating the duties of the permanent committee, shall be as follows, to-wit:

1. To inspect the fair grounds after they shall have been prepared for the annual exhibition by the special committee of arrangements, appointed for that purpose, and suggest such modifications or further preparations as he may deem necessary.

2. To formally open the annual fair of the society at such time as the Executive committee may prescribe, with an appropriate address.

3. As the executive head of the society, to have a general supervision and control of the entire exhibition, subject only to the authority of the Executive committee.

The duties of the Secretary, more especially defined than in the constitution shall be as follows:

1. To make a faithful record of each meeting of the Executive committee and keep such record in a condition for the convenient reference of any member thereof, at any time, also to make a record of every order drawn on the treasurer, and delivered to parties in whose favor they were so drawn — separately entering and numbering the orders drawn to pay premiums and those to pay general expenses, and so defining them — and of all moneys due the society; in all cases holding the parties so indebted, responsible therefor, until they shall have presented him a certificate from the treasurer showing that the same has been paid.

2. To open and carry on such correspondence as may be advantageous to the society or to the common cause of agricultural improvement, not only with individual agriculturists and eminent practical and scientific men of other industrial pursuits, but also with other societies or associations whose objects are kindred to ours, whether in this country or foreign lands, and to preserve a journal of such correspondence in the archives of the Society.

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3. To collect and arrange for convenient examinations, standard agricultural works and periodical publications, together with such models, machines and implements as may be donated to, or otherwise acquired by the Society.

4. To investigate as far as practicable, the nature of fertilizers, indigenous and cultivated plants, insects injurious to vegetation, etc., and to collect and preserve such specimens thereof, as will illustrate the natural history and agricultural resources, condition and progress of the state.

5. To institute and collect reports therefrom, needed experiments relative to the preparation of the various soils of the state for economical culture, the cultivation of different grains, fruits and garden vegetables, the breeding and raising of stock, etc.

6. To visit, by the advice of the executive committee, or as his own judgment may direct, the various portions of the state, and to give lectures on the science and practice of agriculture, wherever and whenever they may be deemed most necessary and desirable.

7. To co-operate with the superintendent of public instruction and the agent of the normal school board, for the introduction and use in the schools of Wisconsin, of standard works on agriculture and other industrial arts and sciences.

8. To attend as many as possible of the industrial exhibitions of this country, particularly the county fairs of Wisconsin; to co-operate with the president and special committee of arrangements, for the judicious preparation and management of our state exhibition; and to have the sole supervision and control of the offices of entry thereat.

9. To carefully prepare and superintend the publication of the annual report of the Society to the governor of the state, embodying therein the proceedings of the State Agricultural Society, an abstract of the reports of the incorporated county agricultural societies of the state, and such reports, essays and addresses, or other matters of information, as may be calculated to enhance the value of said report.

Finally, it shall be his duty, not only by the means above named, but also through such other instrumentalities as he may devise, and the committee approve, to devote himself faithfully and unreservedly to the promotion of the industrial interests of the state.

It shall be the duty of the Treasurer —

1. To receive primarily and exclusively all moneys due the Society, from whatever source.

2. To keep a full and faithful record of all receipts of moneys coming into his hands, and of the sources whence derived, in a book specially furnished by and belonging to the Society, and to have the same open at all reasonable times, to the inspection of any person or persons authorized by the executive committee to make such examination.

3. To likewise keep an exact record of every order by him paid; and

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such record must be verified by the proper vouchers showing that the sums therein named have been by him so paid.

SECTION III.

OF MEETINGS.

The Executive Committee shall meet annually, on the day preceding the day on which the annual meeting of the Society is held, on Monday preceding the first Tuesday of February, and again on the first day of the annual fair.

They shall also meet at the call of the secretary, the president and a vice president of the society concurring — and may adjourn to any stated time.

SECTION IV.

OF A QUORUM.

At any meeting of the Executive committee, four members thereof shall constitute a quorum for the transaction of business.

SECTION V.

OF PERMANENT COMMITTEES.

There shall be two permanent committees of the executive committee which shall be respectively styled the *Standing Committee* and the *Finance Committee.*

The Standing Committee shall consist of the president, the secretary and the treasurer, who shall have power in the recess of the Executive committee to draw orders on the treasurer for all necessary current incidental expenses. But the Executive committee shall have authority, and are hereby required to revise the proceedings or transactions of said Standing committee, and endorse or disapprove the same.

The Finance Committee shall consist of the president and treasurer, and it shall be their duty to suggest means for increasing the revenues of the Society.

They shall also have authority to invest any portion of the funds of the Society that may from time to time be set apart by the Executive committee for investment, disposing of such funds upon such terms and conditions as may be prescribed by the said Executive committee.

Each of the above-named sub-committees shall be responsible for the faithful discharge of their duties to the Executive committee, to whom an appeal may at any time be taken from their acts or decisions.

The auditing, adjusting, allowing or rejecting of all bills, claims or demands, of whatsoever nature, against the Society, and the issuing of orders upon the treasurer for payment of the same — except for the current incidental expenses of the Society, as by this section already provided for —

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shall devolve upon the Executive committee; and it shall be the duty of said committee to annually examine the books, papers and vouchers of the treasurer and secretary, and compare the same, and adjust the accounts between those officers and the Society, and report thereon at the annual meeting in December.

SECTION VI.

OF THE ORDER OF BUSINESS.

The following order of business shall be observed at all meetings of the Executive committee:

1. Reading of the minutes of the preceding meeting.
2. Reading of the minutes and reports of the Standing committee.
3. Reading the minutes and reports of the Finance committee.
4. Report of Auditing committee.
5. Reports from special committees.
6. Communications from the secretary.
7. Communications from members of the committees.
8. Unfinished business.
9. Miscellaneous business.

This order of business may be suspended, however, at any time, by a vote of the majority of the members present.

SECTION VII.

OF THE FISCAL YEAR.

The fiscal year of this society shall commence on the first Wednesday of December in each year, and all annual reports of the year previous shall be made up to that time.

SECTION VIII.

OF THE EXPIRATION OF THE TERMS OF OFFICE.

The terms of office of all the officers of this Society shall expire on the 31st day of December of each year.

SECTION IX.

OF AMENDMENTS.

These by-laws may be amended at any regular meeting of the Executive committee by a vote of eight of the members thereof.

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LIST OF LIFE MEMBERS.

Name.	Residence.	Name.	Residence.
Allen, J. W	Janesville.	Babbitt, Clinton...	Beloit.
Angell, R. R.....	Janesville.	Bryant, D. D.....	Madison.
Adams, James	Janesville.	Bunker, Geo	Madison.
Atwood, R. J.....	Madison.	Bryant, Geo. E	Madison.
Adams, L. L	Stoner's Prairie	Brockway, E. P ...	Milwaukee.
Aspinwall. D. M...	Farmington.	Bradley, C. T.....	Milwaukee.
Armour, P. D	Chicago.	Brodhead, E. H ...	Milwaukee.
Atkins, A. H.. ...	Milwaukee.	Bonnell, James....	Milwaukee.
Alexander, O.....	Milwaukee.	Black, John	Milwaukee.
Angell, Wm. H....	Sun Prairie.	Bush, Samuel.....	Milwaukee.
Armstrong, L. G...	Boscobel.	Benedict, W. G....	Milwaukee.
Arnold, A. A.....	Galesville.	Button, Henry H..	Milwaukee.
Anderson, Matt....	Pine Bluff.	Blair, Francis J....	Milwaukee.
Adams, H. C	Madison.	Burnham, Jr., A ..	Milwaukee.
Auerbach, S. B	Milwaukee.	Burnham, John L.	Milwaukee.
Asmuth, Anton....	Milwaukee.	Boorse, Henry.....	Granville.
Ackerman, Philip .	Milwaukee.	Bonnell, Lansing ..	
Abresch, C.....	Milwaukee.	Brown, J. Austin..	Chicago.
Auer, Louis	Milwaukee.	Bigelow, F. G	Milwaukee.
Andrus, L. E.....	Milwaukee.	Brickner, G. H	Sheboygan F'lls
Adler, E. D.....	Milwaukee.	Brown, Frank G ..	Madison.
Atwood, W. F.....	Portland, Ore.	Bryant, Jr., Geo. E	Madison.
		Brown, Wm. W...	Merton.
Boyce, A. A.....	Lodi.	Brabazon, J. R	Delavan.
Boyd, R. B.....	Milwaukee.	Bryant, Frank H ..	Madison.
Bullard, James	Bridgewat'r, Da	Brand, F. C. G	Milwaukee.
Babbitt, D. H.....	Auburn, N. Y.	Babbitt, Arthur O.	Beloit.
Barrows, E. S		Boyd, J. G	Milwaukee.
Barlass, David	Emerald Grove	Becker, Washingt'n	Milwaukee.
Bump, N. P.....	Janesville.	Boynton, A. L. ...	Milwaukee.
Bemis, Jervis.....	Janesville.	Bechtel, Daniel....	Madison.
Barlass, Andrew...	Emerald Grove	Boyden, J. A.....	Milwaukee.
Burgess, J. M.....		Brown, Thos. H ...	Milwaukee.
Bates, A. C	Janesville.	Bigelow, Wm	Milwaukee.
Bostwick, J. M	Janesville.	Bergenthal, Wm ..	Milwaukee.
Bostwick, R. M....	Janesville.	Bartlett, L	Milwaukee.
Bishop, John C....	Fond du Lac.	Bartlett, O. Z	Milwaukee.
Billings, Earl.....	Madison.	Bradley, Edward ..	Milwaukee.
Brown, Jas. J		Boorse, J. H	Milwaukee.
Bowman, J. M	Madison.	Bacon, E. P	Milwaukee.
Bailey, A. P.....	Sun Prairie.	Brigham, D. M....	Milwaukee.
Byrne, John A	Madison.	Boyd, Francis .. .	Milwaukee.
Bruce, A. T	Madison.	Burnham, John T..	Milwaukee.
Bird, T. E.....		Buestrain, Henry..	Milwaukee.
Bull, Stephen.....	Racine.	Bradley, W. H	Milwaukee.
Bliss, C. M.....		Buening, Job H ...	Milwaukee.
Burnham, Miles ...	Blooming Pra., Minn.	Beck, C. A	Milwaukee.
		Best, Jr., Chas.....	Milwaukee.

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Boorse, W	Milwaukee.	Corrigan, John....	Milwaukee.
Birkel, F. G.....	Milwaukee.	Crocker, Hans.....	Milwaukee.
Boomer, Elbert....	Beaver Dam.	Cottrill, C. M.....	Milwaukee.
Boomer, E. J.....	Beaver Dam.	Camp, H. H.....	Milwaukee.
Bartels, J. L.....	Milwaukee.	Cooper, E. J.....	Des Moines, Ia.
Beckwith, S.....	Milwaukee.	Carr, Joseph S.....	
Baumbach, C. von.	Milwaukee.	Curtis, D. W.....	Fort Atkinson.
Burroughs, Geo ...	Milwaukee.	Crilley, John J. ...	Milwaukee.
Bunde, Louis W...	Milwaukee.	Curtis, Dexter.....	Madison.
Beer, Richard	Milwaukee.	Cantwell, M. J.....	Madison.
Bass, Jas. W.....	Milwaukee.	Colman, Ed.	Fond du Lac.
Busjaeger, A.....	Milwaukee.	Carey, Ed. A.....	Fond du Lac.
Blatz, A. C.....	Milwaukee.	Clark, David J. ...	Milwaukee.
Burchard, A. L....	Milwaukee.	Coon, H. C.....	Albion.
Barth, Peter	Milwaukee.	Cook, W. H.....	West Point.
Becher, J. A	Milwaukee.	Cramer, John F. ..	Milwaukee.
Baumgartner, H...	Milwaukee.	Cudahy, P.....	Milwaukee.
Buerger, A.....	Milwaukee.	Campbell, J. G. J..	Milwaukee.
Benjamin, D. M...	Milwaukee.	Cuppell, Charles...	Milwaukee.
Burnham, Geo	Milwaukee.	Chapin, Chas. A...	Milwaukee.
Boyle, J.....	Milwaukee.	Chandler, E. H....	Milwaukee.
Beaumont, E	Hartland.	Campbell, M. Y....	Milwaukee.
Bacon, W. D	Waukesha.	Cary, Edward L...	Milwaukee.
Bement, E.	Oregon.	Corrigan, J. E	Milwaukee.
Benedict, J. D.....	Bristol.	Cribb, Geo. C.....	Milwaukee.
Benson, S. W.....		Carpenter, M.....	Milwaukee.
Bird, I. W.....	Madison.	Crawford, J. N....	Mukwonago.
Brazea, Ben.... ..	Wauwatosa.	Chase, Clifford. ...	Milwaukee.
Bryan, John.....	Cross Plains.	Cox, G. G.....	Mineral Point.
		Chase, Geo. H.....	Milwaukee.
Clark, C. M.....	Whitewater.	Chase, Clarence ..	Milwaukee.
Crossett, B. F.....	Janesville,	Colvin, W. W.....	Milwaukee.
Crosby, J. B.....		Crocker, J. T.....	Milwaukee.
Cutting, J. W... .		Chase, Lucien D...	Milwaukee.
Crawford, John B..	De Smet, Dak .	Campbell, Henry..	Evansville.
Carter, A. M.	Johnstown.	Carver, P. S.....	
Culver, Caleb E....	Shopiere.	Case, J. I.....	Racine.
Clark, Lewis	Beloit.	Chandler, J. C.....	Madison.
Cornell, James	Oakfield.	Chase, Enoch.....	Milwaukee.
Children, E.....	E. Dubuque,Ia.	Cheney, Rufus	S. Evanston,Ill.
Carpenter, S. D....	Carthage, Mo.	Cochrane, John....	Waupun.
Church, W. W.		Cogswell, A. W ...	Brookfield.
Carr, Nathan B....	Madison.	Colby, Chas.....	
Capron, Geo..		Crawl, Jno.....	Center.
Chipman, A.....	Sun Prairie.	Clark, John H.....	Madison.
Colton, J. B.....	Madison.		
Crampton, N. B...	Madison.	Darling, K. A.....	Fond du Lac.
Chipman, C. R.....	Waunakee.	Dwinnell, J. B.....	Lodi.
Cornwell, H. H....		Doolittle, W. J. ...	
Carlton, W. D.....	Sun Prairie.	Dann, Obed.....	
Carpenter, J. H...	Madison.	Dexter, W. W	
Curtis, F. C.	Rocky Run.	Davis, W.....	Center.
Crawford, E. B....		De Voe, A. B.....	McFarland.
Colladay, W. M....	Stoughton.	Drakeley, Samuel..	
Carpenter, J. E....	Windsor.	De Wolf, E.....	
Cummings, Wm...	Randolph.	Davidson, Adam...	Verona.
Clapp, G. W..	Oregon.	Daniells, W. W....	Madison.
Chapman, T. A...	Milwaukee.	Dickerman, J. A...	Madison.
Cottrill, W. H.....	Milwaukee.	Danks, E. P.....	Stoughton.

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Dunlap, Sylvester.	Token.	Fitch, Wm. F.....	
De Lamatyre, W.A.		Fuller, F. D.....	Madison.
Dahlman, Anthony	Milwaukee.	Frank, A. S.....	Madison.
Dutcher, Jno A....	Milwaukee.	Folds, Geo. H.....	Sioux Falls, Dak.
Demore, A. B	Milwaukee.		
Dodge, H. S..... .	Milwaukee.	French, Jonathan.	
Daubner, Geo. H..	Brookfield Cen.	Fitch, D.....	Madison.
Davis, Patrick.....		Firmin, F. H	Hastings, Neb.
Dore, John S.....	Fresnc, Cala.	Field, W. W.....	Odebolt, Iowa.
De Hart, J. L.....	West Lima.	Fletcher, John.....	
Doyon, M. R.	Madison.	Friedman, Ignatius	Milwaukee.
Dunham, M. W. ..	Wayne, Ill.	Fitzgerald, R. P...	Milwaukee.
Durand, Wm. F...	Milwaukee.	Fowler, Jas. S.....	Milwaukee.
Des Forges, Geo...	Milwaukee.	Fitch, W. G.....	Milwaukee.
Day, F. T.....	Milwaukee.	Ferguson, D.....	Milwaukee.
Durr, Emil.....	Milwaukee.	Flint, Jr., J. G....	Milwaukee.
Dickinson, O. B. ..	Milwaukee.	Fratt, N. D.....	Racine.
Drake, John R.....	Milwaukee.	Freeman, C. F.....	Milwaukee.
Dexter, Chas. J. ..	Milwaukee.	Frank, Geo. R.....	Muscoda.
Daly, John L.....	Milwaukee.	Foote, A. E.....	Milwaukee.
Dever, Thos. P....	Milwaukee.	Frankfurth, Wm..	Milwaukee.
Dore, Timothy	Milwaukee.	Fuller, E. M.....	Madison.
Darwin, A. G.....		Farnsworth, J. H..	Fond du Lac.
Davis, N. P.....		Fox, A. O.....	Oregon.
Dean, E. B.....	Madison.	Ford, J. C.....	Madison.
Delaplaine, G. P...	Madison.	Falk, Frank R.....	Milwaukee.
Doris, John.....	Milwaukee.	Foley, Jr., John....	Milwaukee.
Dousman, T. C....		Farlow, Simeon. ..	Burnett Junct.
Dow, O. P.....	Palmyra.	Finney, F. U.....	Milwaukee.
Echlin, John O...	Janesville.	Friend, Elias.....	Milwaukee.
Elderkin, E. S.....	Elkhorn.	Fay, Chas. H.....	
Ellsworth, W. J...	Madison.	Frattinger, Peter..	Milwaukee.
Edmunds, F. W...	Madison.	Fitzgerald, H. J...	Milwaukee.
Elliott, E.....		Fisher, N. D.....	Florence.
Esterly, Geo. W...	Whitewater.	Fueldner, Herman.	Milwaukee.
Elliott, Jas. T	Racine.	Fahey, Michael....	Milwaukee.
Elmore, R. P.....	Milwaukee.	Fuller, Miss F. L ..	Madison.
Eldred, John E....	Milwaukee.	Fox, William.....	Baraboo.
Elson, Charles	Milwaukee.	Fisher, C. T.....	Wauwatosa.
Ellsworth, Lem....	Milwaukee.	Flowers, J. M.....	Oconomowoc.
Ehlers, C. F.....	Milwaukee.	Farwell, L. J.....	Oconomowoc.
Eastman, John....	Madison.	Ferguson, Benj....	Fox Lake.
Ellsworth, Isaac...	Milwaukee.	Field, Martin.....	Mukwonago.
Eaton. J. O.....	Lodi.		
Edgerton, E. W...	Milwaukee.	Giles, H. H.....	Madison.
Elmore, A. E.	Green Bay.	Graves, S. W.....	Rutland.
Ellis, J. A.....		Grubb, W. S.....	Baraboo.
Emmons, N. J.....	Milwaukee.	Gibbs, Charles R...	Whitewater.
Enos, Elihu	Waukesha.	Graham, Alex.....	
Fenn, G. W.....	Janesville.	Graves, R. T.....	Ripon.
Finch, Lorin.....	Janesville.	Goodrich, Ezra....	Milton.
Fifield, J. G.....	Janesville.	Gates, D. W. C....	
Fifield, D.....	Janesville.	Gaylord, Aug.....	
Fisher, Seth.....	Center.	Gould, L. D.....	
Fisher, S. W.....	Center.	Goodnow, H. D....	Madison.
Fisher, C. C... ...	Center.	Gernon, Geo.....	Madison.
Fuller, M. E.....	Madison.	Gilbert, Thomas...	Oregon.
Fisher, Elijah.....	Center.	Gregory, J. C.....	Madison.
Foote, E. A.....	Footville.	Grady, F. M.....	Madison.

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Green, N. S.....	Milford.	Hutson, J. S.....	Stoughton.
Greenman, C. H...	Dover Center, Minn.	Hudson, John.....	Madison.
		Hall, S. H.....	Madison.
Gammons, Warren	Middleton.	Hoven, Math.....	Madison.
Gilman, Henry....	Sun Prairie.	Huntley, Danl.....	Appleton.
Grinnell, J. F.....	Farmer's Grove	Hitt, H. D	Oakfield.
Groom, John.....		Hutchins, C. A....	Fond du Lac.
Greenleaf, E. B....	Milwaukee.	Hoyt, F. E.....	Rochester.
Green, Richard....	Middleton.	Hatch, Eugene....	Jefferson.
Galbraith, James..	Janesville.	Hansen, John E...	Milwaukee.
Goodrich, John R..	Milwaukee.	Hansen, Oscar C ..	Milwaukee.
Garrett, G. W.....	Milwaukee.	Hubbard, S. D....	Mondovi.
Grant, W. J.....	Milwaukee.	Hopkins, H. C.....	Milwaukee.
Gray, Thos. S.....	Milwaukee.	Hildebrand, And..	Milwaukee.
Green, David C....	Milwaukee.	Hendee, C. A.....	Milwaukee.
Gilligan, John.....	Milwaukee.	Heyn, Hermann...	Milwaukee.
Goodrich, T. W....	Milwaukee.	Hennis, Louis	Milwaukee.
Gallagher, A.....	Milwaukee.	Hoffman, Chas. G.	Milwaukee.
Goes, Geo. W.....	Milwaukee.	Hansen, Guido.. .	Milwaukee.
Gartner, Andrew..	Milwaukee.	Hansen, Theo. L...	Milwaukee, 26th and Clyb.
Gordon, G. E.....	Milwaukee.		
Graves, J. W.....	Hudson.	Helms, Christian..	Milwaukee.
Grover, F. B.....	Rolling Prairie.	Holbrook, Jas.....	Milwaukee.
George, John S....	Milwaukee.	Home, W. M.....	Milwaukee.
Grau, A. M.....	Milwaukee.	Hauxhurst, Sidney	Milwaukee.
Gettelman, Adam.	Milwaukee.	Hamilton, A. K...	Milwaukee.
Gurnee, J. D.....	Madison.	Hintze, C. F. A....	Milwaukee.
		Hartman, F. W ...	Milwaukee.
Harris, Jas.....	Janesville.	Haisler, M. J.....	Milwaukee.
Hume, Wm.....	Oshkosh.	Hiles, Geo.....	Milwaukee.
Hammond, E. S...	Fond du Lac.	Hurson, G.....	Milwaukee.
Hogan, Gilbert....	Elyria, Ohio.	Hackendall, E.....	Milwaukee.
Hall, Augustus....		Hirsch, H.....	Milwaukee.
Hill, J. H	Madison.	Hinrichsen, H. L..	Milwaukee.
Hollister, Rufus M.	Dakota.	Hinkel, John.....	Milwaukee.
Hodson, C. W.....	Janesville.	Hun ington, C. P..	Milwaukee.
Harvey, J. W....	Knoxville, Ten.	Hinkley, Frank D.	Milwaukee.
Hopkins, Jas.....		Holstein, W. A....	Milwaukee.
Hammond, L. M ..		Hoff, J. J	Milwaukee.
Hausmann, Jos....	Madison.	Harding, George..	Waukesha.
Hill, H. J		Hodges, L. F.....	Milwaukee.
Hawes, Jasper T..	Willow Lake, Dak.	Hinsey, John A...	Milwaukee.
		Hoxie, B. S.....	Evansville.
Haight, Nicholas..	Madison.	Heil, J.....	Milwaukee, 2400 Grand Av
Hallock, Youngs ..	Middleton.		
Higbee, A. T.....	Fort Atkinson.	Haight, J. M	
Hall, H. P		Hanchett, A. M ...	Milwaukee.
Hicks, J. H	Oshkosh.	Hasbrouk, W. H...	
Helmer, A. M.....	Waukesha.	Hastings, S. D.....	Madison.
Hopkins, B. B.....	Milwaukee.	Hawes, W. N.....	East Middleton
Hill, Robert	Milwaukee.	Hill, J. P. W.....	
Hempstead, H. N..	Milwaukee.	Hinkley, B. R.....	Summit.
Hyde, Edwin.....	Milwaukee.	Holton, Edward...	Milwaukee.
Hayes, A. J	Milwaukee.	Hoskins, J. W.....	Milwaukee.
Hazleton, Geo. C..		Hoyt, J. W.....	
Hanks, A. S.....	Milwaukee.		
Hazen, Chester ...	Ladoga.	Inbusch, J. H	Milwaukee.
Hopkins, E. C.....	Milwaukee.	Ilsley, Chas. F	Milwaukee.

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Iverson, J. C.....	Milwaukee.	Lester, Waterman.	
Ingham, A. C		Ludlow, A	Monroe.
		Lloyd, Lewis.....	Cambria.
Jenkins, J. C.....	Janesville.	Lynch, T. M.....	Janesville.
Jackman, Hiram..		Lawrence, Wm. A.	Janesville.
Johnson, M. B.....		Little, Thos. H	Janesville.
Jerdee, L. P.....	Madison.	Leitch, W. T.....	Madison.
Jerdee, M. P	Madison.	Leitch, Jr., W. T..	Madison.
Johnson, Jr., John.	Madison.	Leslie, John.	Madison.
Jencks, S. R.....		Lyman, L. H	Madison.
Jones, John N.....	Madison.	Lewis, John L	Madison.
Jones, C. H	Sun Prairie.	Larkin, B. F	Madison.
Johnston, Hugh L.	Milwaukee.	Lamb, F. J...	Madison.
Johnston, John....	Milwaukee.	Larkin, Daniel	Madison.
Johnson, Jos	Hartland.	Ladd, M. L.....	Mendota, Ill.
Jeffrey, Geo.....	Milwaukee.	Lucy, O. R.....	Columbus.
Jacobs, Dr. Wm...	Madison.	Leidersdorf, B. ...	Milwaukee.
Johnson, John A..	Madison.	Landauer, Max....	Milwaukee.
Jones, E. D	Fond du Lac.	Luddington, Jas. L.	Milwaukee.
Johnston, W. A...	Minneapolis.	Lindsay, E. J.....	Milwaukee.
Jenckins, J. G.....	Milwaukee.	Lapham, Henry ...	Summit.
Josslyn, E. S	Milwaukee.	Lysaght, Wm	Monroe.
Jacobs, Jr., Wm...	Madison.	Lazier, Ed	Rochelle, Ill.
		Lockin, John H ...	Pueblo, Colo.
Knight, Ed.....	Myrtle, Dak.	Lennox, B. G.....	Milwaukee.
Kimball, M. G.....		Lewis, Calvin E ...	Milwaukee.
Kiser, W. C.....	Tetonka, Dak.	Luening, A. F. ...	Milwaukee.
Kiser, J. C.....	Oregon.	Luenzmann, C ...	Milwaukee.
Kiewert, Emil.....	Milwaukee.	Lando, Julius.....	Milwaukee.
Kershaw, C. J	Chicago, Ills.	Lawrie, James	Milwaukee.
Knowles, Geo	Milwaukee.	Lafeber, James....	Wauwatosa.
Kneeland, James..	Milwaukee.	Larkin, C. D	Milwaukee.
Koss, Rudolph	Milwaukee.	Larkin, C. H.....	Milwaukee.
Kellogg, Geo. J....	Janesville.	Lawton, J. G.....	De Pere.
Kingsley, Geo. P ..	Janesville.	Learned, J. M	
Knapp, G. A.....	Fond du Lac.	Lockwood, John ..	
Knapp, Wm. A....	Fond du Lac.	Ludington, H	Milwaukee.
Knowles, Geo. P ..	Fond du Lac.	McPherson, J. P ..	Springdale.
Koch, John C	Milwaukee.	Miner, Cyrus.....	Janesville.
Kelly, Thos. L.....	Milwaukee.	Mason, G. A.....	
Kraus, Fred.....	Milwaukee.	Martin, Nathaniel.	
Kern, J. B. A.....	Milwaukee.	McConnell, L. J...	Madison.
Krull, Robt	Milwaukee.	McCormack, J. G..	Madison.
Kane, A. L.....	Milwaukee.	Merrill, Alf.....	Madison.
Kendrick, C. D....	Milwaukee.	Main, A. H.....	Madison.
Klein, Peter J....	Milwaukee.	Martin, S. W.. ...	
Kellogg. Rufus B..	Green Bay.	Moxley, A. R.....	
Kerin, John	Wauwatosa.	Morden, Edward ..	Madison.
Keogh, Edward ...	Milwaukee.	McDonald, A.....	Alloa.
Kindling, Louis ...	Milwaukee.	Martin, A. C.....	Ashton.
Kipp, B. A.....	Milwaukee.	Murray, Geo.....	Racine.
Kopmeier, John...	Milwaukee, 120 Canal St.	Mann, J. E.....	Madison.
		Mann, Andrew L..	Madison.
Keenan, Mathew..	Milwaukee.	McNeil, David.....	Stoughton.
Koch, H. C	Milwaukee.	McKenna, Martin .	Madison.
Klein, Geo.....	Ft. Atkinson.	Mannwaring, Wm.	Black Earth.
Keyes, E. W	Madison.	Miller, John.... ..	Madison.
Knapp, J. G.....	Limona, Fla.	Mitchell, John L ..	Milwaukee.

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Miner, J. D	Milwaukee.	Nichols, L. T.....	Berlin.
Mayhew, T. W....	Milwaukee.	Norton, J. B.....	Madison.
Mann, Henry.....	Milwaukee.	Newton, J. S.....	Middleton.
Morehouse, L. H ..	Milwaukee.	Norris, C. W	Milwaukee.
Mullen, James.....	Milwaukee.	Nash, C. D	Milwaukee.
McLaren, W. P....	Milwaukee.	Nowell, W. A.....	Milwaukee.
May, A. C.....	Milwaukee.	Newton, T. L.....	Beaver Dam.
McGeoch, P.....	Milwaukee.	Nelson, Cassius B..	Madison.
Mayhew, F. L.....	Milwaukee.	Nason, S. L.....	Nasonville.
Mathews, A. R	Milwaukee.	Nunnemacher, Rob.	Milwaukee.
McIndoe, Walter D.	Milwaukee.	Neacy, M.....	Milwaukee.
Mann, Curtis	Oconomowoc.	Newcome, C. W...	Milwaukee.
McDowell, H. C...	Oconomowoc.	Nunnemacher, R..	Milwaukee.
Morrison, W. H ...	Madison.	Neuser, Henry.....	Milwaukee.
McDonald, John W.	Fond du Lac.	Nieman, L. W.....	Milwaukee.
McConnell, Wm. N.	Dartford.	Needham, J. P....	Wauwatosa.
McDermott, Wm..	Fond du Lac.	Newcomb, S. B....	Cold Spring.
Moore, B. F... ...	Fond du Lac.		
Macomber, S. D...	New Lisbon.	Ott, George V	Lawty, Fla.
Millett, Chas. O....	Beloit.	Orr, George H.....	
Miller, Chas. B....	Madison.	Ober, R. P.....	
Miller, Roswell....	Milwaukee.	Oliver, Joseph B...	Milwaukee.
Morgan, Thomas...	Milwaukee.	Ogilvie, Robt.....	Madison.
Morgan, James....	Milwaukee.	Olcott, J. B.....	Oshkosh.
Mann, J. G.....	Milwaukee.	Ormond, Wm. M..	Milwaukee.
Mendel, H. M.	Milwaukee.	Osbourne, O. S....	Milwaukee.
Manegold, Jr., Chas.	Milwaukee.	Otjen, C. S.....	Milwaukee.
McCord, Sam'l.....	Milwaukee.	Olcott, John D.....	Milwaukee.
Mueller, Oscar	Milwaukee.	Oberman, Geo. J...	Milwaukee.
Mathews, E. P	Milwaukee.	Olney, C. W.....	La Cygne, Kan.
Manegold, A. F....	Milwaukee.		
Mohr, Oscar.....	Milwaukee.	Plumb, J. C.....	Milton.
Melindy, Miss M. A. M.....	Milwaukee.	Payne, Wm	Janesville.
		Pember, R. T.....	Janesville.
Mix, F. T	Milwaukee.	Perrine, L. W	
Meinecke, Jr., A...	Milwaukee.	Parsons, P. B.....	
Mock, B.....	Milwaukee.	Parmley, Ira.....	Center.
Millard, A. F.....	Milwaukee.	Perkins, P. M.....	Burlington.
Mitchell, G. Stanley	Milwaukee.	Pond, Samuel A...	Janesville.
Miller, B. K.....	Milwaukee.	Parker, C. H.....	Beloit.
Mueller, Louis J...	Milwaukee.	Patten, L. F.....	Janesville.
McFetridge, E. C..	Beaver Dam.	Pinney, S. U	Madison.
Mann, Fred M.....	Milwaukee.	Pratt, E. E.....	
Mooney, R. D.....	Milwaukee.	Perry, B. F.....	Madison.
Miller, Fred	Milwaukee.	Palmer, J. Y.....	
Meehan, P.....	Milwaukee.	Palmer, O. M.....	Oregon.
Meehan, James....	Milwaukee.	Park, W. J.....	Madison.
McKinney, H. D...	Janesville.	Powers, W. J.....	Black Earth.
Maxon, Glenway...	Milwaukee.	Palmer, Henry	Verona.
Mahoney, George..	Milwaukee.	Partridge, Jno. S..	Whitewater.
Miller, Jr., B. K...	Milwaukee.	Plummer, B. G....	Wausau.
Mehl, John.....	Milwaukee.	Plankinton, John..	Milwaukee.
Meinecke, Jno.....	Milwaukee.	Pierce, C. L.....	Milwaukee.
Marshall, Samuel..	Milwaukee.	Patton, Jas. E....	Milwaukee.
Martin, C. L.....	Janesville.	Page, H. L.....	Milwaukee.
Maxon, O. T.....	So. Evanston Ill	Pilgrim, D. T.....	Wauwatosa.
Mills, Simeon.....	Madison.	Paul, John H.....	Genesee.
McCarty, F. D.....	Fond du Lac.	Porter, G. E.....	Eau Claire.

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Name.	Residence.	Name.	Residence.
Payne, H. C.....	Milwaukee.	Rusk, Jeremiah M.	Viroqua.
Pier, C. K.....	Fond du Lac.	Reed, Harrison....	Madison.
Pratt, Oris.....	Spring Prairie.	Reynolds, Thomas.	Madison.
Palmer, E. W.....	Fitchburg.	Resague, A. C.....	Janesville.
Paulson, Aug. A...	New Holstein.	Richardson, D....	Middleton.
Pabst, Fred.....	Milwaukee.	Richardson, James	
Pereles, Thos. J....	Milwaukee.	Robbins, J. V.....	
Pereles, Jas. M....	Milwaukee.	Roe, J. P.....	
Pabst, Jr., Fred....	Milwaukee.	Rogers, C. H.....	Milwaukee.
Pabst, Gustav.....	Milwaukee.	Rogers, J. S.....	Burlington.
Phillips, J. P.....		Rowe, W. E.....	Mazomanie.
Polzinsky, Jos.....		Ruggles, J. D.....	
Preusser, C.....	Milwaukee.	Stewart, G. H.....	Colorado Springs, Colo.
Pfister, Chas.....	Milwaukee.		
Prichard, Miss M.E.	Janesville.	Stewart, C. R.....	Karson, Minn.
Perry, Eli.....	Waupun.	Sherman, Amaziah	Janesville.
Pettit, C. H.....	Milwaukee.	Sherman, Adelmar	Janesville.
Pettit, L. J.....	Milwaukee.	Simmons, C. J.....	Monroe.
Peck, Geo. W.....	Milwaukee.	Spencer, R. C.....	Milwaukee.
Paul, Edward J....	Milwaukee.	Smith, M. C.....	Janesville.
Parkinson, A. C....	Columbus.	Skelly, Chas.....	Janesville.
Peffer, Miss Kate F.	Pewaukee.	Stannard, A. C....	Milton.
Palmer, H. L.....	Milwaukee.	Sloan, I. C.....	Janesville.
Peffer, G. P.....	Pewaukee.	Smith, J. Morris...	
Plumb, T. D.....	Madison.	Sheldon, S. L.....	Madison.
Porter, Wm. H....	Marshall.	St. John, J. W.....	Janesville.
Powers, D. J.....		Smith, S. B.....	Vernon.
Pres. St. Peters Valley Farm Club...	Springfield.	Stone, G.....	Beloit.
		Stowe, La Fayette.	Sun Prairie.
		Stevens, J. T.....	Madison.
Quinn, Jeremiah...	Milwaukee.	Steensland, H.....	Madison.
		Skinner, Geo. J...	Sioux Falls, So. Dakota.
Richmond, A.....	Whitewater.		
Raymond, S. O....	Geneva.	Sheldon, A. H.....	Janesville.
Richardson, R. J...	Janesville.	Sharp, J. W.....	
Richardson, H.....	Janesville.	Stanley, Wm.....	Vienna.
Rice, E. M.....	Whitewater.	Storm, Wm.....	Madison.
Rexford, J. D.....	Janesville.	Sanderson, R. B...	
Riordan, Chas.....		Sutherland, C.....	Madison.
Riebsam, C. R.....	Madison.	Swain, W. W.....	Madison.
Rawson, C. A.....		Stockman, Jno....	Milton.
Robbins, J.....		Squire, Thomas B..	Waterloo.
Rogers, Lawrence.		Salisbury, R. W...	Paoli.
Rowe, Richard W.	Madison.	Sheldon, D. G.....	Madison.
Ray, Charles.....	Milwaukee.	Snell, H.....	Madison.
Rogers, D. G.....	Milwaukee.	Salisbury, D. F...	Oregon.
Rogers, H. G.....	Milwaukee.	Spencer, J. C.....	Milwaukee.
Ryder, James K...	Waterloo.	Shaw, J. B.....	
Richards, Griffith..	Cambria.	Steele, Chester.....	Milwaukee.
Rich, A. W.....	Milwaukee.	Stark, Chas. G.....	Milwaukee.
Rosenkranz, O. L..	Milwaukee.	Sanderson, Ed.....	Milwaukee.
Richter, Frederick.	Milwaukee.	Smith, Angus.....	Milwaukee.
Rohlfing, Wm.....	Milwaukee.	Shuter, Chas.....	
Rogers, C. C.....	Milwaukee.	Stephenson, Isaac..	Marinette.
Rademacher, Wm.	Milwaukee.	Sarles, John H.....	Boscobel.
Rust, Julius.....	N. Greenfield.	Smith, Winfield...	Milwaukee.
Robinson, Geo. I..	Milwaukee.	Sexton, Wm. F....	Milwaukee.
Rucker, A. M.....	Milwaukee.	Street, Richard....	Waukesha.

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Name.	Residence.	Name.	Residence.
Stilson, Edgar.....	Oshkosh.	Tierney, Kyron....	
Stilson, Adelbert...	Oshkosh.	Thompson, W. H..	
Smith, J. M.....	Green Bay.	Tolford, J. W.....	
Stickney, J. S.....	Wauwatosa.	Torgerson, Lars...	Madison.
Shaw, Geo. B.....	Eau Claire.	Terwilliger, Jas ...	Madison.
Sprecher, John.....	Madison.	Tenney, D. K.....	Chicago, Ill.
Seaver, J. E.....	Darien.	Thorp, J. G.....	Eau Claire.
Schœffel. Geo. J...	Milwaukee.	Thorson, John.....	Milwaukee.
Stelloh, Henry.....	Root Creek.	Tibbits, Geo. M...	Milwaukee.
Smith, A. E.....	Milwaukee.	Treat, Geo. E.....	Milwaukee.
Schweitzer, Theo..	Milwaukee.	Tenney, Samuel A.	Hartland.
Smith, A. A. L....	Milwaukee.	Torry, R. D.....	
Shea, Thomas.. ..	Milwaukee.	True, John M.....	Baraboo.
Shea, Edward.....	Milwaukee.	Tuttle, A. G.....	Baraboo.
Sabland, John.....	Milwaukee.	Tucker, Joseph F..	Milwaukee.
Sawyer, James	Milwaukee.	Twedy, Jr., J. H..	Milwaukee.
Sanderson, Wm...	Milwaukee.	Theurer, Fred.. ..	Milwaukee.
Simonds, Wm. L..	Milwaukee.	Thompson, J. H...	Milwaukee.
Solper, Chas.....	Milwaukee.	Taylor, H. A.....	Hudson.
Stark, Edward J..	Milwaukee.	Thomas, Amos....	Hood Hope.
Shaw, Charles H...	Milwaukee.	Tratt, F. W.....	Whitewater.
Sanger, Casper M..	Waukesha.	Taylor, Wm. R....	Cottage Grove.
Spaulding, D. J....	Black Riv. F'lls.	Tenney H. A.. ..	Madison.
Sholes, Chas.....	Milwaukee.	Todd, J. G.....	Janesville.
Seiben, John.....	Milwaukee.	Townley, Jno.....	Moundville.
Spencer, John C...	Milwaukee.		
Snyder, Fred.....	Milwaukee.	Uihlein, August....	Milwaukee.
Stafford, H. H.....	Milwaukee.	Uihlein, Alfred ...	Milwaukee.
Sanborn, Jas. S....	Milwaukee.	Uihlein, Henry....	Milwaukee.
Seamans, S. H.....	Milwaukee.	Usher, Ellis.....	Milwaukee.
Simpson, E. B.....	Milwaukee.		
Salisbury, Abraham	Milwaukee.	Van Etta, Jacob...	Madison.
Stapleton, J. A.....	Milwaukee.	Vilas, Wm. F.....	Madison.
Sawyer, H. W.....	Hartford.	Viall, Andrus.....	Madison.
Somers, Peter J...	Milwaukee.	Vaughn, A. W....	Lodi.
Snyder, E. A.....	West Granville.	Vilas, Chas H.....	Chicago, Ill.
Stoltz, H. L.....	646 Island Ave., Milwaukee.	Van Cott, Albert B.	Madison.
		Van Kirk, N	Milwaukee.
Stickney, Chas.....	Wauwatosa.	Van Brunt, W. A..	Horicon.
Schley, Bradley G.	Milwaukee.	Van Schaik, I. W.	Milwaukee.
Sanderson, H. B...	Milwaukee.	Van Norman, G. B.	Milwaukee.
Sutton, J. J.....	Columbus.	Vance, Frank L...	Milwaukee.
Stephenson, F. M..	Menomonee, Mich.	Vilter, Ernst.....	Milwaukee.
		Vance, David.....	Milwaukee.
Swan, N. J.....	Wauwatosa.	Vogel, Fred.....	Milwaukee.
Sherman, H. B.....	Burnett Junct.	Van Slyke, N. B...	Madison.
Swan, O. J...	Wauwatosa.		
Swan, E. A.....	Wauwatosa.	Warren, J. H.....	Janesville.
Sage, E. C.....	New Lisbon.	Wilson, Zebina.. .	Palmyra.
Seville, Jas	Lodi.	Wheelock, W. G...	Janesville.
Sheperd, Clarence.	Milwaukee.	Williams, Randall.	Janesville.
Shipman, S. V.....	Chicago, Ills...	Wright, J. S.....	Emerald Grove
Skinner, E. W.....	Sioux City, Ia.	Wright, Josiah T..	Janesville.
		Wylie, Geo.....	Elkhorn.
Taylor, E. T.....	Mukwonago.	Wheeler, Guy.....	Janesville.
Tallman, W. H....	Janesville.	Wait. J. B.....	
Treat, R. B.....		Wright, D. H.....	Madison.
Twining, M. S.....	Monroe.	Worthington, B. M	

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Wootton, Robert...	Madison.	Wagner, Julius....	Milwaukee.
Werner, John.....	Sauk.	Wharton, J. S.....	Milwaukee.
Welch, William...	Madison.	Wellauer, Jacob...	Milwaukee.
Williams, J. P.....	Madison.	White, C. W.....	Milwaukee.
Wightman, H.....		Wolf, W. H.....	Milwaukee.
Wilson, William...		Walsh, Michael ...	Milwaukee.
Wright, Geo.....	Mt. Horeb.	Whitcombe, H. F..	Milwaukee.
Williams, S. B.....	Madison.	Weston, John.....	Burnett.
Williams, Daniel..	Madison.	Wurster, Jacob...	Milwaukee.
Wheelwright, Jesse	Middleton.	Webster, S. R.....	Danville.
West, Henry.....	Madison.	Wall, E. C.....	Milwaukee.
Whitney, W. F....	Milwaukee.	Walker, W. A.....	Milwaukee.
West, Henry H....	Milwaukee.	Wilkin, T. S.....	Milwaukee.
Wheeler, L. A.....	Milwaukee.	Wheeler, F. M.....	Waukesha.
Whaling, J. M.....	Milwaukee.	Wylie, Geo	Leeds.
Wilkins, A. W.....	Milwaukee.	West, S. C.... ...	Milwaukee.
Wackerhagen, E...	Racine.	Wilcox, C. F.....	Janesville.
Williams, Daniel ..	Summit.	Williams, D.....	Darien.
Wheeler, George F.	Milwaukee.	Williams, C. H....	Baraboo.
Wright, O. W.....		Willey, O. S.....	Benn Har Mch.
Wicks, Thomas....	Milwaukee.		
Wood, J. W.....	Baraboo.	Yewdale, Merton H	Milwaukee.
Waggstoff, S. M...			
Wilson, Wm.. ...	Wausau.	Zwietusch, Otto..?	Milwaukee.
Weigel, August....	Milwaukee.	Zimmerman, V....	Milwaukee.
Wolcott, H.....	Milwaukee.	Zimmerman, G. J..	Milwaukee.
Warren, Fred C...	Fox Lake.	Zinn, A. C.....	Milwaukee.
Weisel, Peter.....	Milwaukee.		

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Chas. D. Atwood,
Isaac Adams,
E. P. Allis,
J. M. Arnold,
Chauncey Abbott,
H. M. Allen,
David Atwood,
J. W. Ayers,
Geo. Barnes,
Perry Bostwick,
Fred Bemis,
M. T. Bailey,
J. B. Bowen,
A. B. Braley,
T. Brown,
W. G. Beecroft,
W. Blanchar,
James Barry,
F. Briggs,
W. A. Briard,
B. F. Brown,
I. P. Bacon,
H. A. Bennett,
Levi Blossom,
R. H. Baker,
Geo. Baxter,
H. D. Barron,
F. W. Bayley,
S. G. Benedict,
H. M. Billings,
John Child,
C. M. Campbell,
J. Corey,
Guy Carter,
Wm. Casar,
Satterlee Clark,
Seymour Curtis,
Sam Chandler,
J. P. C. Cottrill,
W. W. Coleman,
I. Cary,
L. S. Curtis,
C. R. Clark,
J. A. Carpenter,
H. Chase,
D. R. Coit,
A. J. Craig,
J. B. Cross,
E. P. Doty,
J. P. Dickson,
Wm. Dunn,
John S. Dean,
M. M. Dorn,
M. L. Daggett,

Abel Dunning,
John Dahlman,
H. L. Dousman,
S. S. Daggett,
S. B. Davis,
Jno. Davis,
G. L. Davis,
N. W. Dean,
Nelson Dewey,
J. E. Dodge,
J. B. Dousman,
Chas. Durkee,
H. Durkee,
Andrew Dunn,
E. W. Drury,
O. Ellsworth,
John Fernley,
L. Fifield,
Jacob Fowle,
Thos. T. Furlong,
W. H. Fox,
Sidney Foote,
John Furlong,
Fred Froedert,
E. Fairbanks,
E. Grover,
Samuel Green,
Anthony Green,
Geo. G. Green,
H. D. Greenman,
R. E. Gillett,
G. Goodrich,
Albert Grant,
S. B. Grant,
Orrin Guernsey,
Sol Hutson,
Robert Hodge,
W. H. Hiner,
B. Hancock,
Carl Hoeflinger,
L. J. Hobart,
W. B. Hibbard,
Peter Hanstran,
A. G. Hanford,
N. M. Harrington,
L. P. Harvey,
J. A. Hellenstein,
P. B. Hill,
David Holt,
B. F. Hopkins,
J. C. Hopkins,
Wheldon Hughes,
J. W. Hunt,
E. Hurlbut,
H. C. Jacobs,

E. H. Janssen,
J. C. Johnson,
Paul Juneau,
A. C. Kent,
John Kimbal,
S. P. Kingsley,
Samuel Klauber,
W. J. Kershaw,
L. T. Kellogg,
L. H. Kellogg,
Moses Kneeland,
H. A. Lewis,
W. Larkin,
I. A. Lapham,
W. P. Lynde,
Ira Miltimore,
Alex. McGregor,
E. D. Masters,
E. T. Mabie,
G. F. Moseley,
J. C. Mosher,
Clinton Matteson,
Andrew McCullough,
W. A. Mears,
G. W. McDougal,
David McKenna,
J. H. B. Matts,
A. L. McDill,
S. S. Merrill,
J. B. Macy,
Alex. Mitchell,
Alex. McBride,
D. S. Morse,
Sam'l Morse,
B. F. Nott,
Ephraim Newton,
John Nazro,
John W. Park,
Geo. Paine,
P. M. Pritchard,
H. M. Page,
Guido Pfister,
Warren A. Phelps,
D. T. Post,
Geo. Paddock,
B. Pinckney,
W. F. Porter,
D. G. Power,
Andrew Proudfit,
Anson Rogers,
John Reynolds,
John Reynolds,
Mich. Reynolds,
W. Ross,
John Rodermund,

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Harvey Russell,	G. H. Slaughter,	C. L. Williams,
Herbert Reed,	Geo. B. Smith,	N. A. Wright,
Richard Richards,	J. B. Smith,	D. Worthington,
Geo. Sherman,	Wm. Spaulding,	W. R. Warren,
J. M. Sherman,	Jos. Spaulding,	W. A. Wheeler,
S. W. Smith,	Eli Stilson,	A. White,
A. B. Slaughter,	A. C. Shipman,	James Webster,
G. A. Slocum,	W. H. True,	J. T. Woolley,
H. L. Smith,	Ole Thompson,	D. L. Wells,
U. Schutt,	Dr. W. Thompson,	Geo. Worthington,
Frank Scollan,	John J. Talmadge,	A. H. West,
Adam Smith,	F. H. Terry,	Sylval Walraf,
James Sullivan,	M. J. Thomas,	Martin Webster,
J. C. Sherwood,	B. Throop,	Chas. Weed,
G. C. Stevens,	Joseph Utter,	W. A. White,
Kellogg Sexton,	A. H. Van Nostrand,	T. T. Whittelsey,
W. E. Smith,	L. M. Vilas,	J. F. Willard,
H. P. Strong.	Henry Vilas,	G. M. Williams,
Emil Schandien,	L. B. Vilas,	H. O. Wilson,
L. Sexton,	Stephen G. Williams,	E. B. Wolcott,
S. B. Scott,	James A. Webb,	J. E. Young.
Jeff. Sinclair,		

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LIST OF OFFICERS OF COUNTY AGRICULTURAL SOCIETIES FOR 1890.

Name of Society.	President.	Post-office.	Name of Secretary	Post-office.	Name of Treasurer	Post-office.
Adams Co. Agri. and Mech. Assn	S. S. Landt	Friendship	W. E. McGowan	Friendship	G. W. Waterman.	Friendship.
Arcadia Agri. and Driv. Assn	M. J. Cashel	Arcadia	Geo. Mathys	Arcadia	J. C. Radell	Arcadia.
Barron Co. Agri. Socy	N. Washburn	Rice Lake	N. E. Carver	Chetek	A. F. Nichols	Chetek.
Brown Co. Fair and Park Assn	D. W. Britton	Green Bay	D. W. Flatly	Green Bay	H. B. Baker	Green Bay.
Brown Co. Agri. and Mech. Assn	R. J. McGeehan	Depere	John Smith.	Depere	E. C. Merrill	Depere.
Buffalo Co. Agri. Socy	J. W. Whelan	Mondovi	Alex Lees	Gilmanton	J. N. Dillon	Mondovi.
Burnett Co. Agri. Socy.	G. A. Olson	Grantsburg	And. A. Anderson	Grantsburg	Simon Thorson	Grantsburg.
Baraboo Valley Agri. Socy	James Lake	Reedsburg	A. F. Lawton	Reedsburg	A. P. Ellinwood	Reedsburg.
Blakes Prairie Agri. So	John Carey	Bloomington	Frank L. Greer	Bloomington	D. F. Brown	Bloomington.
Boscobel Agri. and Driv. Park Assn	John H. Sarles	Boscobel	Ed. Meyer	Boscobel	M. B. Pittman	Boscobel.
Cent., Wis. Agri. and Mech. Assn	E. D. Brown	Stevens Point	T. J. Simmons	Stevens Point	Emmons Burr	Stevens Point.
Clark Co Agri. Socy	C. A. Youmans	Neillsville	Geo. A. Ure	Neillsville	Chas. Sternitzky.	Lynn.
Cumberland Agri. and Driv. Park Assn	T. D. Wakman	Cumberland	S. W. Miner	Cumberland	J. T. Miller	Cumberland.
Crawford Co. Agri. Socy	Ambr. Thompson	Seneca	A. B. Wihtree	Seneca	Robert Morris	Seneca.
Columbia Co. Agri. Socy	E. S. Purdy	Portage	A. J. Brown	North Leeds	David Owen	Portage.
Dane Co. Agri. Socy	W. H. Jacobs	Madison	Geo. E. Bryant, Jr	Madison	E. B. Steensland	Madison.
Door Co. Agri. Socy	H. C. Silver	Sturgeon Bay	L. L. Bacchus	Sturgeon Bay	C. L. Nelson	Sturgeon Bay.
Dodge Co. Fair Assn	John D. Smith	Beaver Dam	F. S. Lewis	Beaver Dam	D. B. Holt	Danville.
Dunn Co. Agri. Socy	Geo. H. Seeley	Menomonie	J. N. McGilton	Cedar Falls	O. W. Massee	Louisville.
Eastern Monroe, Co. Agri. Socy	L. S. Benjamin	Tomah	M. L. Hineman	Tomah	James Wilson	Tomah.
Green Co. Agri. Socy	G. T. Hodges	Monroe	Rob't A. Etter	Monroe	R. C. Whitcome	Monroe.
Grant Co. Agri. Socy	J. J. McKenzie	Lancaster	J. M. Kilbourn	Lancaster	W. J. McCoy	Lancaster.
Iowa Co. Agri. Socy	J. P. Smelkee	Dodgeville	Chris Ellingen	Dodgeville	F. W. Stratman	Dodgeville.
Jackson Co. Agri. Socy	H. A. Bright	B. R. Falls	G. M. Hull	B. R. Falls	J. J. McGillvray	B. R. Falls.
Jefferson Co. and Rock River Valley Assn	John Whittet	Busseyville	O. F. Roessler	Jefferson	Geo. J. Kispert	Jefferson.
Juneau Agri. Socy	S. C. Plummer	Mauston	H. H. Heath	Mauston	Fred. Adler	Mauston.
Kewaunee Co. Agri. Socy	John L. Haney	Kewaunee	Theo. F. Rallering	Kewaunee	Lorenz Lutz	Kewaunee.
Lincoln Co. Agri. Socy	L. L. Anderson	Merrill	R. Klensmidt	Corning	Jacob Webber	Merrill.
La Fayette Co. Agri. Socy	Wm W. Murphy	Darlington	Wm. Hooper	Darlington	John R. Roy	Darlington.
La Crosse Agri. Socy	J. J. Johnson	La Crosse	Geo. W. Robinson	West Salem	Wm. Smith	Bangor.
Lodi Union Agr. Socy	A. W. Vaughn	Lodi	E. W. Gardiner	Lodi	J. B. Dwinnell	Lodi.
Langlade Co. Agri. Socy	J. M. Bemis	Elmhurst	H. A. Kohl	Antigo	H. C. Humphrey	Antigo.
Monroe Co. Agri. Socy	C. E. Lake	Sparta	E. W. Crane	Sparta	E. W. Robie	Sparta.
Marquette Co. Agri. Socy	Hugh Hamilton	Westfield	Thos. Skinner	Merritt's Lan.	S. A. Lange	Westfield.
Manitowoc Co. Ind. Assn	Thos. E. Sorrison.	Manitowoc	M. H. Murphy	Manitowoc	Henry Esch, Jr.	Manitowoc.
Marathon Co. Agri. Socy	B. E. Jones	Wausau	B. W. Pulling	Wausau	S. Wendorf	Stettin.
N. W. Agri. and Mech. Assn	W. F. Baily	Eau Claire	Geo. W. Robertson	Eau Claire,	G. W. Robertson	Eau Claire.
Ozaukee Co. Agri. Socy	D. Wittenberg	Cedarburg	Dan. E. McGinley	Saukville	Thos. Halpin	Cedarburg.
Outagamie Co. Agri. Socy	John Dey	Hortonville	F. W. Harriman	Appleton	Matthew McComb	Hortonville.

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Oconto Co. Agri. Socy	A. Cole	Oconto	Geo. Beyer	Oconto	Chas. Hall	Oconto.
Price Co. Agri. Socy	James McKinley	Phillips	E. W. Murray	Phillips	F. L. Hunt	Phillips.
Pepin Co. Agri. Socy	Geo. Tarrant	Durand	J. J. Morgan	Durand	A. W. Hammond	Durand.
Polk Co. Agri. Socy	S. B. Dresser	Dresser Junc.	J. H. McCourt	St. Croix Falls	S. C. Harvey	St. Croix Falls
Pierce Co. Central Fair	H. B. Warner	Ellsworth	C. H. Crownhart	Ellsworth	J. C. Deniston	Ellsworth.
Portage Co. Agri. Socy	Geo. W. Flemming	Amherst	H. A. Smith	Amherst	J. O. Fixen	Amherst.
Rock Co. Agri. Socy	J. E. Gleason	Janesville	E. B. Heimstreet	Janesville	S. L. James	Janesville.
Richland Co. Agri. Socy	H. M. Bock	Richland City	F. W. Burnman	Richland Cen.	T. M. Hart	Richland Cen.
S. W. Wis. Ind. Assn	Thos J. Van Mater	Fayette	John W. Horn	Mineral Point.	Phil. Allen, Jr	Mineral Point
Sauk Co. Agri. Socy	John M. True	Baraboo	A. D. McGilvra	Baraboo	Henry Marriott	Baraboo.
Sheboygan Co. Agri. Socy	T. H. Blackstock	Sheboygan	B. F. Heald	Sheboygan F.	A. O. Heald	Sheboygan F.
Shawano Co. Agri. Socy	F. W. Humphrey	Shawano	W. H. Murdock	Shawano	L. Rollman	Shawano.
Seymour Fair Assn	Peter Tubbs	Seymour	F. R. Dittmer	Seymour	D. A. Kenyon	Seymour.
Trempeleau Co. Ind. Agri. Assn	J. C. Lambertson	Whitehall	J. O. Melby	Whitehall	E. N. Trowbridge	Whitehall.
Trempeleau Co. Agr. Socy	N. H. Carhart	Marshland	E. F. Clark	Galesville	W. B. Thompson	Galesville.
Taylor Co. Agri. Socy	Thos. O. Hartman	Medford	Geo. L. Shattuck	Medford	Vincent Hirsch	Little Black.
Vernon Co. Agri. Socy	F. K. Van Wagner	Viroqua	O. B. Wyman	Viroqua	C. H. Trowbridge	Viroqua.
Wis. Cent. Stock Growers' Assn	H. C. Moore	Fond du Lac	J. W. Watson	Fond du Lac	C. W. Henry	Fond du Lac.
Walworth Co. Agri. Socy	J. M. Grier	Bloomfield	L. G. Latham	Elkhorn	Levi Allen	Elkhorn.
Washington Co. Agri. Socy	W. P. Ricks	West Bend	Joseph Ott	West Bend	Geo. W. Jones	West Bend.
Waushara Co. Agri. Socy	J. S. Bugh	Wautoma	John Clark	Wautoma	Gilbert Tennant	Wautoma.
Waupaca Co. Agri. Socy	P. L. Van Epps	Weyauwega	Wm. Wood	Weyauwega	David Wofler	Weyauwega.
Waukesha Co. Agri. Socy	O. P. Clinton	Waukesha	G. F. H. Barber	Waukesha	Edward Foster	Waukesha.
Wis. Ind. Assn	M. M. Secor	Racine	J. B. Jackson	Pleasant Prair	Joseph Schroeder	Racine.

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OPENING ADDRESS OF FAIR OF 1889.

BY PRES. JOHN L. MITCHELL.

Members of the State Agricultural Society, Ladies and Gentlemen:

Before we proceed, some of us to its duties and all of us to the pleasures and the instruction of this exhibition, let us glance for a moment at the history of the agricultural society, reviewing what its purpose was in the beginning and noting whether it has fulfilled, in any measure, its early promise.

The society was organized in 1851, holding its first exhibition in that year. It was formed "to promote the advancement of agriculture, horticulture, and the mechanic and household arts." Its prime object was the holding of annual fairs, bringing together in competition, sample products of the soil, specimens of the improved breeds of domestic animals and the latest inventions in labor saving machinery.

To quote the words of a former president, "the main uses of the exhibitions are:

"1st. The encouragement of the more enterprising, by awarding to them the distinction they deserve for their efforts to produce better results in their several departments of industry, by making some partial compensation for such efforts in the form of substantial prizes; by bringing to the place of exhibition, multitudes of observers from all parts of the state, so that the superiority of their results may be widely known and appreciated; and finally, by announcing their successes through the medium of the press.

"2nd. To place before the less enterprising and less informed, such models of excellence in their respective branches of industry as will awaken in their minds a desire for improvement, and show them the path to success.

"3rd. By gathering all classes of the people together for objects of common interest, to promote that friendly intercourse which leads to mutual respect and intelligent cooperation.

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"4th. To furnish an occasion for needed relaxation and recreation to our hard-working people, who, but for some such opportunity to blend entertainment with instruction, would rarely or never escape the sound of unceasing toil."

Since its first fair in 1851, the society has held a fair each year, excepting in 1861–62–63, years when war's alarm put to flight the gentle goddess of the harvest.

It has not been the policy of the society to accumulate money. Year by year has its premium list lengthened and strengthened to keep pace with the growing greatness of the agriculture of the state, and year after year has it promptly paid every dollar that the judges have seen fit to award.

Another means of usefulness is the volume of transactions issued annually and distributed gratuitously. There have been twenty-six volumes published. Of the last edition there were thirteen thousand copies printed. This gives an idea of the vast amount of matter which the society has sent out.

Filled with the freshest thought on agriculture and kindred topics, these volumes are perused with profit by every progressive farmer in the state. Crammed with facts and figures concerning the resources of Wisconsin, they have found their way into the libraries of the new and the old world, inviting immigration and the investment of capital.

With these two investments, the yearly fair and the annual volumes of transactions, the society has wrought incalculable good in the material and social condition of the state.

I have called your attention to the objects of the society and have traced its beneficent course in the hope of enlisting for it your active support. So far, in its fair holding, the society has led a gypsy life. It has wandered about without a fixed habitation. This has been aptly described by our farmer governor as "a wasteful system." What the society needs is a permanent home—grounds which it will take pride in beautifying, substantial buildings for the safe-keeping of exhibits and water-proof stalls for the proper housing of live-stock. Short of this the state society will not be able to keep abreast of its more enterprising neigh-

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bors. To this end an appropriation by the state will be necessary. The society appeals to its friends to use, in its behalf, any influence which they may have with the members of the next legislature.

The society does not stand alone in upholding the interests of agriculture. Not long ago the "Farmers' Institutes" were organized. These institutes, or meetings, are held at many important points in the state, during the winter when the farmers are not pressed with work. Papers are read by men who have made a special study of the subject which they treat, and a general discussion follows. All this is instructive and stirs up an interest in agricultural things. Instead of antagonism between them, as some have supposed, the society and the "farmers' institutes" work in harmony. The "Farmers' Institutes" teach us by precept. They tell us how to prepare the soil for crops; they investigate for us the theories of breeding; they enlighten us on the economic management of the dairy. The mission of the state society is object teaching. At its fairs we find the concrete thing; head of grain, bullocks destined to the flock and Governor Hoard's Jersey cow, with a roll of her golden butter.

The Agricultural society and the "Farmers' Institutes" move hand in hand towards the same goal — the instruction and elevation of the farmer.

Milwaukee has just had a week of hero worship. Veterans of the war paraded her streets to drum beat and the beat of patriotic hearts. To greet her soldier guests all her buildings blazed with multi-colored bunting. A bronze button became a passport to every household in the city. These were honors worthily bestowed. This week Milwaukee is thronged with heroes of a humbler sort, but none the less deserving. Now she has with her the farmers, men who have plodded at the plow-tail, wearily, day after day, who have endured the scorching sun of the harvest field and have faced the biting blasts of winter in caring for their flocks and herds. Theirs is not an army equipped for destruction. It is an army bearing the sickle and the sheep shears, the troop of strong handed men that feed and clothe

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us. It will become Milwaukee to honor, also, these victors in the fields of peace. Not with the flourish of trumpets, nor the waving of flags. Simply, let every Milwaukeean make it his duty to put in an appearance here and contribute his mite towards the success of this farmers' festival. By so doing, he will not only help the cause of agriculture, but he will be helpful to himself. Immured, engrossed with business cares, it will refresh him to breathe this breezy, country-scented air.

I will not try to lecture you about farming — you are here for amusement. Neither will I undo my budget of receipts for growing long ears on the corn stalks and short ears on the mules' heads. You know fully as much about agricultural matters as I do.

As spokesman of the society, I welcome you to these grounds and express the wish that you may all find enjoyment and benefit in this exhibition, an exhibition which I now declare open to the public.

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LIST OF AWARDS AT STATE FAIR OF 1889.

DEPARTMENT A.— HORSES.

CLASS 1 — *Percherons.*

STALLIONS.

	Best stallion 4 years, and over.	
No. 446	L. Johnson, Northfield, Minn.	$25 00
3	W. Andrews, Lake Forest, Ill.	15 00
	Best stallion 3 years, and under 4.	
No. 493	Rufus B. Kellogg, Green Bay.	20 00
102	Bowles & Hadden, Janesville	12 00
	Best stallion 2 years, and under 3.	
No. 85	H. A. Briggs, Elkhorn.	20 00
681	Fred. Pabst, Milwaukee.	10 00
	Best stallion 1 year, and under 2.	
No. 681	Fred Pabst, Milwaukee	15 00
681	Fred Pabst, Milwaukee	8 00
	Best stallion colt under 1 year.	
No. 493	Rufus B. Kellogg, Green Bay	15 00
681	Fred Pabst, Milwaukee	8 00

MARES.

	Best brood mare and colt.	
No. 493	Rufus B. Kellogg, Green Bay	20 00
681	Fred Pabst, Milwaukee	15 00
	Best mare 4 years old and over.	
No. 493	Rufus B. Kellogg, Green Bay	20 00
3	W. Andrews, Lake Forest, Ill.	15 00
	Best mare 3 years old and under 4.	
No. 681	Fred Pabst, Milwaukee	20 00
493	Rufus B. Kellogg, Green Bay	10 00
	Best mare 2 years old and under 3.	
No. 681	Fred Pabst, Milwaukee	15 00
493	R. B. Kellogg, Green Bay.	8 00
	Best filly 1 year old and under 2.	
No. 493	R. B. Kellogg, Green Bay.	15 00
681	Fred Pabst, Milwaukee	8 00
	Best filly under 1 year.	
No. 681	Fred Pabst, Milwaukee	12 00
681	Fred Pabst, Milwaukee	6 00

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BREEDING RINGS.

Best breeding stallion as shown by five of his colts, either sex, under 4 years.
No. 681 Fred Pabst, Milwaukee ..... Gold Medal

Best brood mare as shown by three of her colts, either sex, under 4 years.
No. 681 Fred Pabst, Milwaukee ..... Gold Medal

Rufus B. Kellogg, of Green Bay, offers for the best pure blood Percheren stallion bred in Wisconsin, the fine challenge gold medal offered by American Percheron Horse Breeders' Association and won by him at the state fairs of 1886-87-88. Medal to be subject to usual rule for challenge medals.
No. 681 Fred Pabst, Milwaukee ..... Gold Medal

CLASS 2.— *Clydesdales.*

STALLIONS.

	Best stallion 4 years old and over.	
No. 522	Lyall & Shillinger, Verona, Wis	25 00
491	Geo. Klein, Fort Atkinson	15 00
	Best stallion 3 years old and under 4.	
No. 522	Lyall & Shillinger, Verona	20 00
550	R. D. Lowell, Sharon	12 00
	Best stallion 2 years old and under 3.	
No. 173	Caldwell Bros., Morrisonville	20 00
550	R. D. Lowell, Sharon	10 00
	Best stallion 1 year old and under 2.	
No. 491	Geo. Klein, Fort Atkinson	15 00
99	A. Z. Blodgett, Waukegan, Ill	8 00
	Best stallion colt under 1 year.	
No. 491	Geo. Klein, Fort Atkinson	15 00

MARES.

	Best brood mare and colt.	
No. 173	Caldwell Bros., Morrisonville	20 00
491	Geo. Klein, Fort Atkinson	15 00
	Best mare 4 years and over.	
No. 550	R. D. Lowell, Sharon	20 00
173	Caldwell Bros., Morrissonville	12 00
	Best mares 3 years and under 4.	
No. 550	R. D. Lowell, Sharon	20 00
491	Geo. Klein, Fort Atkinson	10 00
	Best mare 2 years and under 3.	
	.....	
173	Caldwell Bros., Morrisonville	8 00
	Best filly 1 year and under 2.	
No. 173	Caldwell Bros., Morrissonville	15 00
550	R. D. Lowell, Sharon	8 00
	Best filly under 1 year.	
No. 173	Caldwell Bros., Morrisonville	12 00
491	Geo. Klein, Fort Atkinson	6 00

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BREEDING RINGS.

Best breeding stallion, as shown by five of his colts, either sex, under 4 years old.

No. 491 Geo. Klein, Fort Atkinson.....Gold Medal.

Best brood mare, as shown by three of her colts, either sex, under 4 years old.

No. 491 Geo. Klein, Fort Atkinson.....Gold Medal.

CLASS 3.— *English Shires.*

STALLIONS.

Best stallion 4 years and over.

No. 185	Cater Bros., Libertyville, Ill.....	$25 00

Best stallion 3 years and under 4.

No. 171	Henry Ives Cobb, Chicago, Ill.....	20 00
102	Bowles & Hadden, Janesville.....	12 00

Best stallion 2 years and under 3.

No. 522	Lyall & Shillinger, Verona.....	20 00
171	Henry Ives Cobb, Chicago.....	10 00

Best mare 2 years and under 3.

No. 171	Henry Ives Cobb, Chicago.....	15 00

CLASS 5.— *Cleveland Bays.*

STALLIONS.

Best stallion 4 years and over.

No. 185	Cater Bros., Libertyville.....	$25 00

Best stallion 3 years and under 4.

No. 185	Cater Bros., Libertyville.....	20 00
883	E. Thomas, Dodges Corners.....	12 00

CLASS 6.— *French Coach.*

STALLIONS.

Best stallion 4 years and over.

No. 284	A. O. Fox, Oregon.....	$25 00
284	A. O. Fox, Oregon.....	15 00

Best stallion 3 years and under 4.

No. 284	A. O. Fox, Oregon.....	20 00
102	Bowles & Hadden, Janesville.....	12 00

Best stallion 2 years and under 3.

No. 284	A. O. Fox, Oregon.....	20 00

Best stallion 1 year and under 2.

No. 284	A. O. Fox, Oregon.....	15 00

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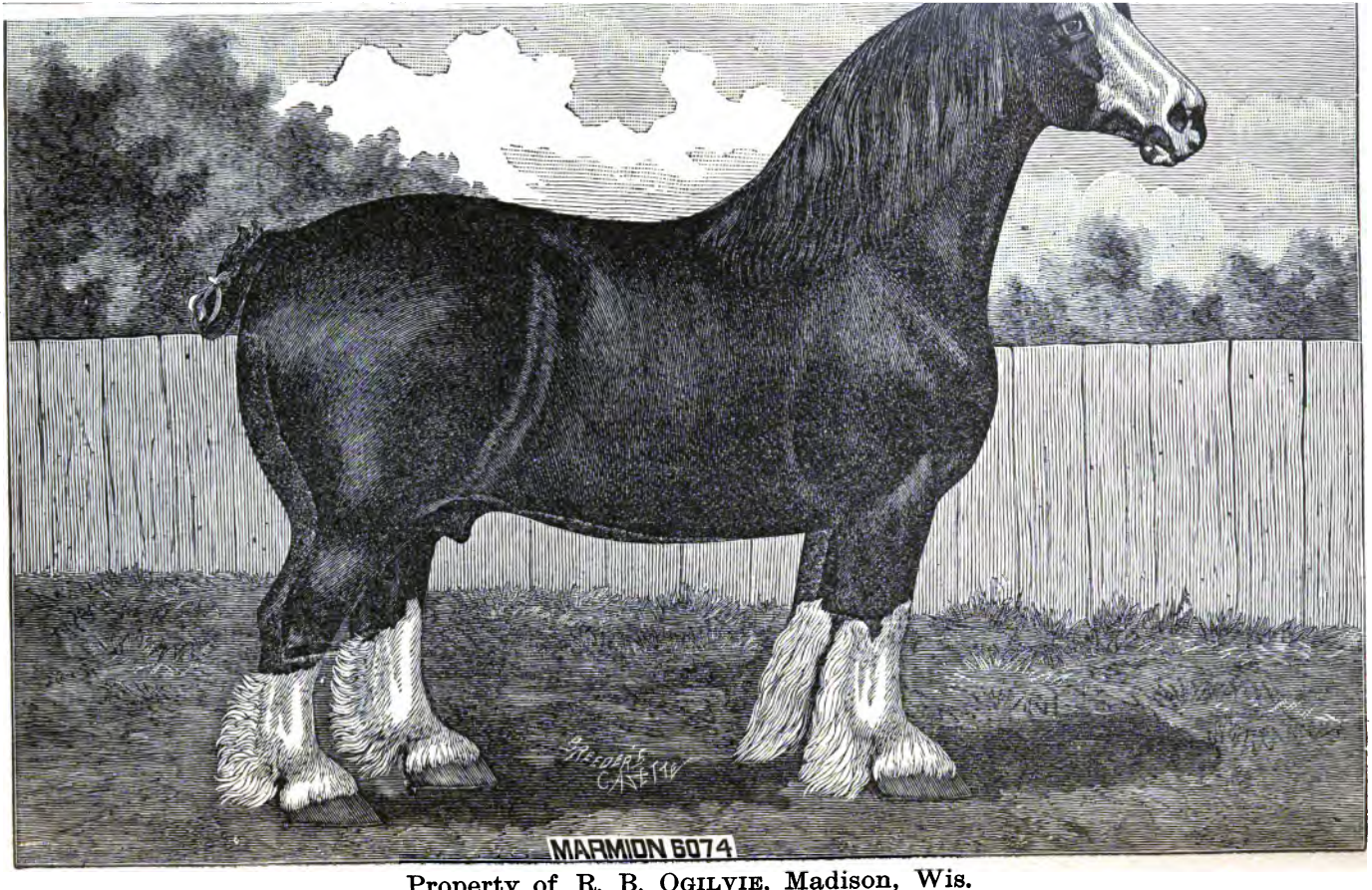

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CLASS 7.— *Trotting Horses.*

Standard bred under national rules. (Recorded or eligible for record in Wallace's Stud books.) Horses 3 years and over to be shown in harness.

STALLIONS.

Best stallion 4 years and over.

No. 938	Uihlein Bros., Milwaukee		$25 00
211	W. J. Dyer, Lancaster		15 00

Best stallion 3 years and under 4.

No. 938	Uihlein Bros., Milwaukee		20 00
378	Chester Hazen, Brandon		12 00

Best stallion 2 years and under 3.

No. 807	Peter Somers, Milwaukee		20 00
294	J. M. Flowers, Oconomowoc		10 00

Best stallion 1 year and under 2.

No. 938	Uihlein Bros., Milwaukee		15 00
938	Uihlein Bros., Milwaukee		8 00

MARES.

Best brood mare and colt.

No. 938	Uihlein Bros., Milwaukee		20 00
378	Chester Hazen, Brandon		15 00

Best mare 4 years and over.

No. 298	N. C. Ferrick, Butler		20 00
579	D. B. Miner, Mukwanego		12 00

Best mare 3 years and under 4.

No. 97	C. T. Bradley, Milwaukee		

Best mare 2 years and under 4.

No. 581	H. D. McKinney, Janesville		15 00
378	Chester Hazen, Brandon		8 00

Best mare 1 year and under 2.

No. 938	Uihlein Bros., Milwaukee		15 00
938	Uihlein Bros., Milwaukee		8 00

Best filly under 1 year.

No. 938	Uihlein Bros., Milwaukee		12 00
378	Chester Hazen, Brandon		6 00

BREEDING RINGS.

Best breeding stallion, as shown by five of his colts, either sex under 4 years.
No. 938 Uihlein Bros., Milwaukee ..... Gold Medal

CLASS 8.— *Grade Draft Horses.*

Animals entered in this class to be sired by full blooded stallions.

Best pair mares or geldings.

No. 491	Geo. Klein, Fort Atkinson		$20 00
183	C. Chaffie, Kenosha		10 00

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Best brood mare and colt.

No. 491	Geo. Klein, Fort Atkinson	$20 00
698	John Plenty, Poynette	10 00

Best mare 4 years and over.

No. 491	Geo. Klein, Fort Atkinson	12 00
570	John McShane, St. Martins	6 00

Best mare 3 years and under 4.

No. 173	Caldwell Bros., Morrisonville	12 00

Best filly 2 years and under 3.

No. 550	R. D. Lowell, Sharon	10 00
173	Caldwell Bros., Morrisonville	5 00

Best filly 1 year and under 2.

No. 491	Geo. Klein, Fort Atkinson	10 00
698	John Plenty, Poynette	5 00

Best sucking filly.

No. 491	Geo. Klein, Fort Atkinson	10 00
698	John Plenty, Poynette	5 00

SPECIAL PREMIUM.

Silver Cup.—Offered by Galbraith Brothers, Janesville, for best pair grade draft horses or mares, bred in the state, sired by an imported Clydesdale or English Shire stallion, such animals to be shown in harness. Said cup to be won thrice by the same party, to become his absolute property, but held by such winner until won by some other party.

No. 491 Geo. Klein, Fort Atkinson ..... Silver Cup

CLASS 10.—*Matched Horses—Roadsters.*

Best pair matched carriage horses, not under 15 hands, 3 inches.

No. 337	F. B. Grover, Milwaukee	$25 00
825	O. D. Sherman, Columbus	15 00

Best single carriage horse or mare, not under 15 hands 3 inches.

No. 1022	T. D. Wadsworth, Milwaukee	20 00
337	F. B. Grover, Milwaukee	10 00

Best pair roadsters.

No. 385	J. W. Hartshorn, Clinton Junction	15 00
583	J. M. McLaughlin, Milwaukee	8 00

Best single roadster.

No. 181	J. H. Carney, Rockford, Ill	10 00
97	C. T. Bradley, Milwaukee	5 00

CLASS 11.—*Saddle Horses.*

Best saddle horse.

No. 445	E. S. Jones, Milwaukee	$25 00
296	W. K. Flint, Milwaukee	15 00
445	E. S. Jones, Milwaukee	10 00

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CLASS 12.— *Speed.*

Trotting. Mile heats; time, 2:35; purse, $500.

J. M. Grier, Badger Boy	$250 00
H. C. Moore, Mambrino Lambert	125 00
F. G. Smith, Chief	75 00
W. J. Dyer, Victory	50 00

Trotting. Mile heats; time, 2:30; purse $500.

C. L. White, Cleo	250 00
E. D. Bithers, Linda Sprague	125 00
D. G. Brown, Roseberry	75 00
F. F. Merrill, Robert	50 00

Trotting. Mile heats; time, 2:30; purse, $500.

E. H. Brodhead, Magna Wilkes	250 00
H. D. Sells, Duke	125 00
W. J. Dyer, Mambrino Sweigert	75 00
J. D. Prentice, Snowstorm	50 00

Five year old; mile heats; purse, $500.

E. J. Travis, Sun Flower	250 00
W. J. Dyer, Tossie D	125 00
W. A. Sanborn, Corsico	75 00
J. D. Martin, Vitemont	50 00

Trotting. Mile heats; time, 2:40; purse, $500.

Uihlein Bros., Oliver Grant	250 00
Wm. Briggs, May B	125 00
G. E. Evans, Ruth Bassett	75 00
Geo. Eldridge, Flora L	50 00

Pacing. Mile heats; free for all; purse, $500.

Geo. Eldridge, Maggie R	250 00
J. W. Flack, White Cloud	125 00
Dr. Cary, Tommy Lynn	75 00
C. H. Patten, Westmont	50 00

Trotting. Mile heats; time, 3:00; purse, $500.

H. C. Moore, Mambrino Lambert	250 00
E. B. Roys, Myra	125 00
E. J. Travis, Erma	75 00
J. Patterson, Minnie Whitestone	50 00

Trotting. Mile heats; time, 2:25; purse, $500.

J. I. Case, Victoria Wilkes	250 00
Roys Bros., North Ann	125 00
E. H. Brodhead, Indigo	75 00
Geo. Castle, Fanny Belmont	50 00

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DEPARTMENT B. — CATTLE.

CLASS 13.— *Short-horns.*

Best bull 3 years and over.

No. 802	C. M. Sanger & Son, Waukesha	$20	00
366	Geo. Harding, Waukesha	15	00

Best bull 2 years and under 3.

No. 443	W. H. Jacobs, Madison	15	00
802	C. M. Sanger & Son, Waukesha	10	00

Best bull 1 year and under 2.

No. 443	W. H. Jacobs, Madison	10	00
443	W. H. Jacobs, Madison	8	00

Best bull calf over 6 and under 12 months.

No. 443	W. H. Jacobs, Madison	8	00

Best bull calf under 6 months.

No. 366	Geo. Harding, Waukesha	5	00
443	W. H. Jacobs, Madison	3	00

Best cow 3 years and over.

No. 802	C. M. Sanger & Son, Waukesha	20	00
366	Geo. Harding, Waukesha	15	00
802	C. M. Sanger & Son., Waukesha	8	00

Best cow 2 years and under 3.

No. 443	W. H. Jacobs, Madison	15	00
802	C. M. Sanger & Son, Waukesha	10	00
366	Geo. Harding, Waukesha	5	00

Best heifer 1 year and under 2.

No. 443	W. H. Jacobs, Madison	10	00
443	W. H. Jacobs, Madison	8	00

Best heifer calf over 6 and under 12 months.

No. 443	W. H. Jacobs, Madison	8	00
443	W. H. Jacobs, Madison	5	00

Best heifer calf under 6 months.

No. 366	Geo. Harding, Waukesha	5	00

BREEDERS' HERD.

Entries confined to Wisconsin breeders.

Best herd of Short-horns to consist of bull and four females all to be under three years old; all to be owned and females to have been bred by exhibitor.

No. 443	W. H. Jacobs, Madison	$40	00
443	W. H. Jacobs, Madison	25	00
892	C. M. Sanger & Son, Waukesha	15	00

SWEEPSTAKES' HERD.

Best herd of Short-horns to consist of bull 2 years old or over, and four females of any age.

No. 443	W. H. Jacobs, Madison	$75	00
803	C. M. Sanger & Son, Waukesha	25	00

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SWEEPSTAKES.

Best bull of any age.

No. 443	W. H. Jacobs, Madison		$25 00

Best cow of any age.

No. 443.	W. H. Jacobs, Madison		25 00

CLASS 14.—*Jerseys.*

Best bull 3 years and over.

No. 168	Chas. M. Cuppels, North Greenfield		$20 00
241	L. H. Ettinger, Lowell		15 00
321	C. N. Griffith, Whitewater		8 00

Best bull 2 years and under 3.

No. 321	C. N. Griffith, Whitewater		15 00
642	J. G. Ogden, Milwaukee		10 00

Best bull 1 year and under 2.

No. 321	C. N. Griffith, Whitewater		10 00
321	C. N. Griffith, Whitewater		8 00

Best bull calf over 6 and under 12 months.

No. 168	Chas. M. Cuppels, North Greenfield		8 00
321	C. N. Griffith, Whitewater		5 00

Best bull calf under 6 months.

No. 814	N. J. Swan, Wauwatosa		5 00
321	C. N. Griffith, Whitewater		3 00

Best cow 3 years and over.

No. 168	Chas. M. Cuppels, North Greenfield		20 00
321	C. N. Griffith, Whitewater		15 00
321	C. N. Griffith, Whitewater		8 00

Best cow 2 years and under 3.

No. 814	N. J. Swan, Wauwatosa		15 00
241	L. H. Ettinger, Lowell		10 00
321	C. N. Griffith, Whitewater		5 00

Best heifer 1 year and under 2.

No. 321	C. N. Griffith, Whitewater		10 00
168	Chas. M. Cuppels, North Greenfield		8 00

Best heifer calf over 6 and under 12 months.

No. 168	Chas. M. Cupples, North Greenfield		8 00
321	C. N. Griffith, Whitewater		5 00

Best heifer calf under 6 months.

No. 321	C. N. Griffith, Whitewater		5 00
321	C. N. Griffith, Whitewater		3 00

BREEDERS' HERD.

Entries confined to Wisconsin breeders.

Best herd of Jerseys, to consist of one bull and four females, all to be under 3 years old; all to be owned and females to have been bred by exhibitor.

No. 168	Chas. M. Cuppels, North Greenfield		$40 00
321	C. N. Griffith, Whitewater		25 00

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SWEEPSTAKES' HERD.

Best herd of Jerseys, to consist of bull 2 years old or over, and four females of any age.

No. 168	Chas. M. Cuppels, North Greenfield	$75 00
321	C. N. Griffith, Whitewater	25 00

SWEEPSTAKES.

Best bull of any age.

No. 168	Chas. M. Cuppels, North Greenfield	25 00

Best cow of any age.

No. 168	Chas. M. Cupples, North Greenfield	25 00

CLASS 15.—*Devons.*

Best bull 3 years and over.

No. 575	J. W. Morse & Son, Verona	$20 00
764	E. L. Rawson, Oak Creek	15 00
764	E. L. Rawson, Oak Creek	8 00

Best bull 2 year and under 3.

No. 764	E. L. Rawson, Oak Creek	15 00

Best bull 1 year and under 2.

No. 575	J. W. Morse & Son, Verona	10 00
764	E. L. Rawson, Oak Creek	8 00

Best bull calf over 6 and under 12 months.

No. 764	E. L. Rawson, Oak Creek	8 00

Best bull calf under 6 months.

No. 764	E. L. Rawson, Oak Creek	5 00
575	J. W. Morse & Son, Verona	3 00

Best cow 3 years and over.

No. 575	J. W. Morse & Son, Verona	20 00
575	J. W. Morse & Son, Verona	15 00
575	J. W. Morse & Son, Verona	8 00

Best cow 2 years and under 3.

No. 575	J. W. Morse & Son, Verona	15 00
575	J. W. Morse & Son, Verona	10 00
764	E. L. Rawson, Oak Creek	5 00

Best heifer 1 year and under 2.

No. 575	J. W. Morse & Son, Verona	10 00
764	E. L. Rawson, Oak Creek	8 00

Best heifer calf over 6 and under 12 months.

No. 764	E. L. Rawson Oak Creek	8 00
575	J. W. Morse & Son, Verona	5 00

Best heifer calf under 6 months.

No. 575	J. W Morse & Son, Verona	5 00
764	E. L. Rawson, Oak Creek	3 00

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BREEDERS' HERD.

Entries confined to Wisconsin breeders.

Best head of Devons to consist of one bull and four females, and to be under three years old; all to be owned and females to have been bred by exhibitor.

No. 575	J. W. Morse & Son, Verona	$40 00
764	E. L. Rawson, Oak Creek	25 00

SWEEPSTAKES' HERD.

Best herd of Devons to consist of bull two years old or over, and four females of any age.

No. 575	J. W. Morse & Son, Verona	$75 00
764	E. L. Rawson, Oak Creek	25 00

SWEEPSTAKES.

Best bull of any age.

No. 575	J. W. Morse & Son, Verona	25 00

Best cow of any age.

No. 575	J. W. Morse & Son, Verona	25 00

CLASS 16.— *Holsteins.*

Best bull 3 years and over.

No. 331	Gillett & Son, Rosendale	$20 00
364	J. E. Hickey & Son, Whitewater	15 00

Best bull 2 years and under 3.

No. 766	Rust Bros., N. Greenfield	15 00
566	John Mehl, Milwaukee	10 00
775	Randall Bros., Hustisford	5 00

Best bull 1 year and under 2.

No. 766	Rust Bros., N. Greenfield	10 00
331	Gillett & Son, Rosendale	8 00

Best bull calf over 6 and under twelve months.

No. 331	Gillett & Son, Rosendale	8 00
766	Rust Bros., N. Greenfield	5 00

Best bull calf under 6 months.

No. 766	Rust Bros., N. Greenfield	5 00
775	Randall Bros., Hustisford	3 00

Best cow 3 years and over.

No. 331	Gillett & Son, Rosendale	20 00
766	Rust Bros., N. Greenfield	15 00
364	J. E. Hickey & Sons, Whitewater	8 00

Best cow 2 years and under 3.

No. 331	Gillett & Son, Rosendale	15 00
364	J. E. Hickey & Sons, Whitewater	10 00
331	Gillett & Son, Rosendale	5 00

Best heifer 1 year and under 2.

No. 766	Rust Bros., N. Greenfield	10 00
431	Gillett & Son, Rosendale	8 00

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Best heifer calf over 6 and under 12 months.

No. 775	Randall Bros., Hustisford	$8 00
331	Gillett & Son, Rosendale	5 00

Best heifer calf under 6 months.

No. 766	Rust Bros., N. Greenfield	5 00
775	Randall Bros., Hustisford	3 00

BREEDERS' HERD.

Entries confined to Wisconsin breeders.

Best herd of Holstein consisting of one bull and four females, all to be under the age of three years; all to be owned and females to have been bred by exhibitor.

No. 331	Gillett & Son, Rosendale	$40 00
766	Rust Bros., N. Greenfield	25 00
775	Randall Bros., Hustisford	15 00

SWEEPSTAKES HERD.

Best herd of Holstein, to consist of bull two years old or over, and four females of any age.

No. 766	Rust Bros., N. Greenfield	$75 00
364	J. E. Hickey & Sons, Whitewater	25 00

SWEEPSTAKES.

Best bull of any age.

No. 331	Gillett & Son, Rosendale	$25 00

Best cow of any age.

No. 331	Gillett & Son, Rosendale	25 00

CLASS 17.— *Guernseys.*

Best bull 3 years and over.

No. 891	F. W. Tratt, Whitewater	$20 00

Best bull 1 year and under 2.

No. 891	F. W. Tratt, Whitewater	10 00

Best bull calf over 6 and under 12 months.

No. 891	F. W. Tratt, Whitewater	8 00

Best bull calf under 6 months.

No. 891	F. W. Tratt, Whitewater	5 00

Best cow 3 years and over.

No. 891	F. W. Tratt, Whitewater	20 00

Best cow 2 years and under 3.

No. 891	F. W. Tratt, Whitewater	15 00

Best heifer 1 year and under 2.

No. 891	F. W. Tratt, Whitewater	10 00

Best heifer calf over 6 and under 12 months.

No. 891	F. W. Tratt, Whitewater	8 00

Best heifer calf under 6 months.

No. 891	F. W. Tratt, Whitewater	5 00

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BREEDERS' HERD.

Entries confined to Wisconsin breeders.

Best herd of Guernseys, consisting of one bull and four females, all under the age of three years; all to be owned and females to have been bred by exhibitor.

No. 891 F. W. Tratt, Whitewater..... $40 00

SWEEPSTAKES HERD.

Best herd of Guernseys, consisting of one bull two years old or over, and four females of any age.

No. 891 F. W. Tratt, Whitewater..... $75 00

SWEEPSTAKES.

Best bull of any age.

No. 891 F. W. Tratt, Whitewater..... $25 00

Best cow of any age.

No. 891 F. W. Tratt, Whitewater..... 25 00

CLASS 19.— *Galloways and Polled Angus.*

Best bull 3 years and over.

No. 521 Leslie & Burwell, Cottage Grove..... $20 00

Best bull one year and under 2.

No. 521 Leslie & Burwell, Cottage Grove..... 10 00

Best bull calf over 6 and under 12 months.

No. 521 Leslie & Burwell, Cottage Grove..... 8 00

Best cow 3 years and over.

No. 521 Leslie & Burwell, Cottage Grove..... 20 00

Best cow 2 years and under 3.

No. 521 Leslie & Burwell, Cottage Grove..... 15 00

Best heifer 1 year and under 2.

No. 521 Leslie & Burwell, Cottage Grove..... 10 00

Best heifer calf over 6 and under 12 months.

No. 521 Leslie & Burwell, Cottage Grove..... 8 00

SWEEPSTAKES HERD.

Best herd of Galloways or Polled Angus, to consist of one bull, two years old and over, and four females of any age.

No. 521 Leslie & Burwell, Cottage Grove..... $75 00

SWEEPSTAKES.

Best bull of any age.

No. 521 Leslie & Burwell, Cottage Grove..... $25 00

Best cow of any age.

No. 521 Leslie & Burwell, Cottage Grove..... 25 00

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CLASS 20.— *Herfords.*

Best bull 3 years and over.

No.	186	Cosgrove Live Stock Co., Le Sueur, Minn	$20 00
	1017	J. J. Williams, Berlin	15 00

Best bull 2 years and under 3.

No.	186	Cosgrove Live Stock Co., Le Sueur, Minn	15 00

Best bull 1 year and under 2.

No.	186	Cosgrove Live Stock Co., Le Sueur, Minn	10 00
	186	Cosgrove Live Stock Co., Le Sueur, Minn	8 00

Best bull calf over 6 and under 12 months.

No.	186	Cosgrove Live Stock Co., Le Sueur, Minn	8 00
	1017	J. J. Williams, Berlin	5 00

Best bull calf under 6 months.

No.	186	Cosgrove Live Stock Co., Le Sueur, Minn	5 00
	1017	J. J. Williams, Berlin	3 00

Best cow 3 years and over.

No.	1017	J. J. Williams, Berlin	20 00
	186	Cosgrove Live Stock Co., Le Sueur, Minn	15 00
	1017	J. J. Williams, Berlin	8 00

Best cow 2 years and under 3.

No.	186	Cosgrove Live Stock Co., Le Sueur, Minn	15 00
	1017	J. J. Williams, Berlin	10 00
	1017	J. J. Williams, Berlin	5 00

Best heifer 1 year and under 2.

No.	186	Cosgrove Live Stock Co., Le Sueur, Minn	10 00
	186	Cosgrove Live Stock Co., Le Sueur, Minn	8 00

Best heifer calf over 6 and under 12 months.

No.	186	Cosgrove Live Stock Co., Le Sueur, Minn	8 00

Best heifer calf under 6 months.

No.	186	Cosgrove Live Stock Co., Le Sueur, Minn	5 00
	1017	J. J. Williams, Berlin	3 00

BREEDERS' HERD.

Entries confined to Wisconsin breeders.

Best herd of Herfords consisting of one bull and four females, all under three years' old; all to be owned and females to have been bred by exhibitor.

No.	1017	J. J. Williams, Berlin	$40 00

SWEEPSTAKES HERD.

Best herd of Herfords, to consist of bulls two years old or over, and four females of any age.

No.	1017	J. J. Williams, Berlin	$75 00
	186	Cosgrove Live Stock Co., Le Sueur, Minn	25 00

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SWEEPSTAKES.

Best bull of any age.

No. 186 Cosgrove Live Stock Co., Le Sueur, Minn..... $25 00

Best cow of any age.

No. 186 Cosgrove Live Stock Co., Le Sueur, Minn..... 25 00

CLASS 21.—*Red Polls or Polled Norfolks.*

Best bull 2 years and under 3.

No. 576 J. W. Martin, Richland City..... $15 00

Best bull 1 year and under 2.

No. 576 J. W. Martin, Richland City 10 00

Best bull calf over 6 and under 12 months.

No. 576 J. W. Martin, Richland City 8 00

Best cow 3 years and over.

No. 576 J. W. Martin, Richland City..... 20 00

Best cow 2 years and under 3.

No. 576 J. W. Martin, Richland City 15 00

Best heifer 1 year and under 2.

No. 576 J. W. Martin, Richland City 10 00

Best heifer calf over 6 and under 12 months.

No. 576 J. W. Martin, Richland City 8 00

BREEDER'S HERD.

Entries confined to Wisconsin breeders'.

Best herd of Red Polls or Polled Norfolds, consisting of one bull and four females, all to be under the age of three years; all to be owned and females to have been bred by exhibitor.

No. 576. J. W. Martin, Richland City..... 40 00

CLASS 22.—*Fat Cattle.*

Best siugle heae of fat cattle.

No. 443 W. H. Jacobs, Madison $15 00
186 Cosgrove Live Stock Co., Le Sueur, Minn..... 10 00

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DEPARTMENT C—SHEEP.

CLASS 23.—*American Merino.*

	Best ram 2 years old and over.	
No. 685	J. H. Pitcher, Eagle	$12 00
573	R. H. Mill, Palmyra	8 00
451	Samuel Jones, Hustisford	4 00
	Best ram 1 year and under 2.	
No. 573	R. H. Mill, Palmyra	10 00
685	J. H. Pitcher, Eagle	7 00
685	J. H. Pitcher, Eagle	4 00
	Best ram lamb.	
No. 685	J. H. Pitcher, Eagle	10 00
450	D. B. Jones, Weiner	7 00
210	J. H. Dixon, Brandon	4 00
	Best ewe 2 years and over.	
No. 210	J. H. Dixon, Brandon	12 00
685	J. H. Pitcher, Eagle	8 00
451	Samuel Jones, Hustisford	4 00
	Best ewe 1 year and under 2.	
No. 685	J. H. Pitcher, Eagle	10 00
450	D. B. Jones, Weiner	7 00
210	J. H. Dixon, Brandon	4 00
	Best ewe lamb.	
No. 450	D. B. Jones, Weiner	10 00
573	R. H. Mill, Palmyra	7 00
210	J. H. Dixon, Brandon	4 00
	Best ram and 3 ewes any age.	
No. 573	R. H. Mill, Palmyra	10 00

CLASS 24.—*Oxford Downs.*

	Best ram 2 years and over.	
No. 564	Geo. McKerrow, Sussex	$12 00
564	Geo. McKerrow, Sussex	8 00
164	Chas. Collard, Edmund	4 00
	Best ram 1 year and under 2.	
No. 564	Geo. McKerrow, Sussex	10 00
564	Geo. McKerrow, Sussex	7 00
564	Geo. McKerrow, Sussex	4 00
	Best ram lamb.	
No. 564	Geo. McKerrow, Sussex	10 00
564	Geo. McKerrow, Sussex	7 00
564	Geo. McKerrow, Sussex.	4 00

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Best ewe 2 years and over.

No. 564	Geo. McKerrow, Sussex	12 00
164	Chas. Collard, Edmund	8 00
564	Geo. McKerrow, Sussex	4 00

Best ewe 1 year and under 2.

No. 564	Geo. McKerrow, Sussex	10 00
564	Geo. McKerrow, Sussex	7 00
564	Geo. McKerrow, Sussex	4 00

Best ewe lamb.

No. 564	Geo. McKerrow, Sussex	10 00
564	Geo. McKerrow, Sussex	7 00

Best ram and 3 ewes any age.

No. 564	Geo. MeKerrow, Sussex	10 00

CLASS 25.— *Cotswolds.*

Best ram 2 years and over.

No. 366	Geo. Harding, Waukesha	$12 00
366	Geo. Harding, Waukesha	8 00
366	Geo. Harding, Waukesha	4 00

Best ram 1 year and under 2.

No. 532	John Long, Waukegan	10 00
366	Geo. Harding, Waukesha	7 00
366	Geo. Harding, Waukesha	4 00

Best ram lamb.

No. 201	Geo. F. Davis & Co., Dyer, Ind	10 00
366	Geo. Harding, Waukesha	7 00
366	Geo. Harding, Waukesha	4 00

Best ewe two years and over.

No. 366	Geo. Harding, Waukesha	12 00
201	Geo. F. Davis & Co., Dyer, Ind	8 00
366	Geo. Harding, Waukesha	4 00

Best ewe 1 year and under 2.

No. 366	Geo. Harding, Waukesha	10 00
366	Geo. Harding, Waukesha	7 00
366	Geo. Harding, Waukesha	4 00

Best ewe lamb.

No. 366	Geo. Harding, Waukesha	10 00
532	John Long, Waukegan	7 00
323	E. Gillett, Western Union	4 00

Best ram and 3 ewes any age, (Ewes not included in the above.)

No. 366	Geo. Harding, Waukesha	10 00

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CLASS 26.— *South Downs.*

Best ram 2 years and over.

No. 564	Geo. McKerrow, Sussex	$12	00
564	Geo. McKerrow, Sussex	8	00
375	J. T. Hill, Brookfield	4	00

Best ram 1 year and under 2.

No. 564	Geo. McKerrow, Sussex	10	00
564	Geo. McKerrow, Sussex	7	00
375	J. T. Hill, Brookfield	4	00

Best ram lamb.

No. 375	J. T. Hill, Brookfield	10	00
564	Geo. McKerrow, Sussex	7	00
564	Geo. McKerrow, Sussex	4	00

Best ewe 2 years and over.

No. 564	Geo. McKerrow, Sussex	12	00
564	Geo. McKerrow, Sussex	8	00
375	J. T. Hill, Brookfield	4	00

Best ewe 1 year and under 2.

No. 564	Geo. McKerrow, Sussex	10	00
375	J. T. Hill, Brookfield	7	00
564	Geo. McKerrow, Sussex	4	00

Best ewe lamb.

No. 564	Geo. McKerrow, Sussex	10	00
375	J. T. Hill, Brookfield	7	00
564	Geo. McKerrow, Sussex	4	00

Best ram and 3 ewes any age. (Ewes not included in the above.)

No. 564	Geo. McKerrow, Sussex	10	00

CLASS 27.— *Shropshires.*

Best ram 2 years and over.

No. 284	A. O. Fox, Oregon	$12	00
284	A. O. Fox, Oregon	8	00
582	L. J. McCormick, Lake Forest, Ill	4	00

Best ram 1 year and under 2.

No. 564	Geo. McKerrow, Sussex	10	00
323	E. Gillett, Western Union	7	00
564	Geo. McKerrow, Sussex	4	00

Best ram lamb.

No. 582	L. J. McCormick, Lake Forest, Ill	10	00
284	A. O. Fox, Oregon	7	00
564	Geo. McKerrow, Sussex	4	00

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Best ewe 2 years and over.

No. 582	L. J. McCormick, Lake Forest, Ill	$12 00

Best ewe 1 year and under 2.

No. 564	Geo. McKerrow, Sussex	10 00
564	Geo. McKerrow, Sussex	7 00
582	L. J. McCormick, Lake Forest, Ill	4 00

Best ewe lamb.

No. 564	Geo. McKerrow, Sussex	10 00
284	A. O. Fox, Oregon	7 00
582	L. J. McCormick, Lake Forest, Ill	4 00

Best ram and 3 ewes any age. (Ewes not included in the above.)

No. 582	L. J. McCormick, Lake Forest, Ill	10 00

Best pen 3 fat wethers any breed.

No. 564	Geo. McKerrow, Sussex	10 00

DEPARTMENT D.—SWINE.

CLASS 28—*Poland China.*

Animals to be recorded or eligible of record.

Best boar 2 years old and over.

No. 523	Geo. A. Lytle, Elkhorn	$15 00

Best boar 1 year and under 2.

No. 1014	J. E. Welsh, Waukesha	10 00
1014	J. E. Welsh, Waukesha	5 00

Best breeding sow 2 years and over.

No. 523	Geo. A. Lytle, Elkhorn	15 00
529	J. C. Love & Son, Waukesha	7 00

Best breeding sow 1 year and under 2.

No. 523	Geo. A. Lytle, Elkhorn	12 00
1014	J. E. Welsh, Waukesha	8 00

Best breeding sow with litter of sucking pigs, not less than four in number, and not over three months old.

No. 529	J. C. Love & Son, Waukesha	15 00
1014	J. E. Welsh, Waukesha	7 00

Best boar pig over six months and under 1 year.

No. 1014	J. E. Welsh, Waukesha	8 00
529	J. C. Love & Son, Waukesha	4 00

Best sow pig over 6 months and under 1 year.

No. 1014	J. E. Welsh, Waukesha	8 00
1014	J. E. Welsh, Waukesha	4 00

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Best boar pig under 6 months.

No. 523	George A. Lytle, Elkhorn	$6 00
529	J. C. Love & Son, Waukesha	3 00

Best sow pig under 6 months.

No. 1014	J. E. Welsh, Waukesha	6 00
523	Geo. A. Lytle, Elkhorn	3 00

HERD SWEEPSTAKES.

Best boar any age.

No. 529	J. C. Love & Son, Waukesha	$12 00

Best sow any age.

No. 523	Geo. A. Lytle, Elkhorn	12 00

Best 5 head of swine under 1 year old, the get of one boar, the sire to be shown with the herd, and considered in making the award.

No. 523	Geo. A. Lytle, Elkhorn	15 00

CLASS 29.— *Chester Whites and Jersey Reds.*

Best boar 2 years old and over.

No. 682	E. E. Palmer, Springfield	$15 00
109	J. B. Barker & Son, Millard	7 00

Best boar 1 year and under 2.

No. 682	E. E. Palmer, Springfield	10 00
603	W. C. Norton, Aldenville, Pa	5 00

Best breeding sow 2 years and over.

No. 682	E. E. Palmer, Springfield	15 00
109	J. B. Barker & Son, Millard	7 00

Best breeding sow 1 year and under 2.

No. 682	E. E. Palmer, Springfield	12 00
603	W. C. Norton, Aldenville, Pa	8 00

Best breeding sow with litter of sucking pigs, not less than 4 in number, and not over three months old.

No. 682	E. E. Palmer, Springfield	15 00
109	J. B. Barker & Son, Millard	7 00

Best boar pig over 6 months old and under 1 year.

No. 109	J. B. Barker & Son, Millard	8 00
682	E. E. Palmer, Springfield	4 00

Best sow pig over 6 months and under 1 year.

No. 109	J. B. Barker & Son, Millard	8 00
682	E. E. Palmer, Springfield	4 00

Best boar pig under 6 months.

No. 603	W. C. Norton, Aldenville, Pa	6 00
109	J. B. Barker & Son, Millard	3 00

Best sow pig under 6 months.

No. 603	W. C. Norton, Aldenville, Pa	6 00
603	W. C. Norton, Aldenville, Pa	3 00

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HERD SWEEPSTAKES.

Best boar any age.

No. 682	E. E. Palmer, Springfield	$12 00

Best sow any age.

No. 682	E. E. Palmer, Springfield	12 00

Best five head of swine under 1 year old, the get of one boar, the sire to be shown with the herd, and considered in making the award.

No. 603	W. C. Norton, Aldenville, Pa	15 00

CLASS 30.— *Berkshire.*

Best boar 2 years old and over.

No. 187	W. G. Cavan, Alden, N. Y.	$15 00
1	A. A. Arnold, Galesville	7 00

Best boar 1 year and under 2.

No. 187	W. G. Cavan, Alden, N. Y.	10 00
1	A. A. Arnold, Galesville	5 00

Best breeding sow 2 years and over.

No. 187	W. G. Cavan, Alden, N. Y.	15 00
1	A. A. Arnold, Galesville	7 00

Best breeding sow 1 year and under 2.

No. 187	W. G. Cavan, Alden, N. Y.	12 00
187	W. G. Cavan, Alden, N. Y.	8 00

Best boar over 6 months and under 1 year.

No. 187	W. G. Cavan, Alden, N. Y.	8 00
1	A. A. Arnold, Galesville	4 00

Best sow pig over 6 months and under 1 year.

No. 187	W. G. Cavan, Alden, N. Y.	8 00
187	W. G. Cavan, Alden, N. Y.	4 00

Best boar pig under 6 months.

No. 187	W. G. Cavan, Alden, N. Y.	6 00
1	A. A. Arnold, Galesville	3 00

Best sow pig under 6 months.

No. 187	W. G. Cavan, Alden, N. Y.	6 00
187	W. G. Cavan, Alden, N. Y.	3 00

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HERD SWEEPSTAKES.

Vest boar any age.

No. 187	W. G. Cavan, Alden, N. Y.	$12 00

Best sow any age.

No. 187	W. G. Cavan, Alden, N. Y.	12 00

Best 5 head of swine under one year old, the get of one boar, the sire to be shown with the herd, and considered in making the award.

No. 187	W. G. Cavan, Alden, N. Y.	15 00

CLASS 31.—*Essex, Suffolk, Small Yorkshire and Cheshire.*

Best boar 2 years old and over.

No. 603	W. C. Norton, Aldenville, Penn.	$15 00
564	Geo. McKerrow, Sussex.	7 00

Best boar 1 year and under 2.

No. 603	W. C. Norton, Aldenville, Penn.	10 00

Best breeding sow 2 years and over.

No. 603	W. C. Norton, Aldenville, Penn.	15 00
564	Geo. McKerrow, Sussex.	7 00

Best breeding sow 1 year and under 2.

No. 564	Geo. McKerrow, Sussex.	12 00
603	W. C. Norton, Aldenville, Penn.	8 00

Best breeding sow with litter of sucking pigs, not less than four in number, and not over three months old.

No. 564	Geo. McKerrow, Sussex.	15 00

Best boar pig over 6 months and under 1 year.

No. 532	John Long, Waukegan.	8 00
564	Geo. McKerrow, Sussex.	4 00

Best sow pig over 6 months and under 1 year.

No. 564	Geo. McKerrow, Sussex.	8 00
532	John Long, Waukegan.	4 00

Best boar pig under 6 months.

No. 532	John Long, Waukegan.	6 00
603	W. C. Norton, Aldenville, Penn.	3 00

Best sow pig under 6 months.

No. 603	W. C. Nortoh, Aldenville, Penn.	6 00
532	John Long, Waukegan.	3 00

HERD SWEEPSTAKES.

Best boar any age.

No. 603	W. C. Norton, Aldenville, Penn.	$12 00

Best sow any age.

No. 603	W. C. Norton, Aldenville, Penn.	12 00

Best 5 head of swine under 1 year old, the get of one boar, the sire to be shown with the herd, and considered in making the award.

No. 603	W. C. Norton, Aldenville, Penn.	15 00

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CLASS 32.— *Victoria*

Best boar 2 years old and over.

No. 837	J. M. Scoville & Son, Lowville	$15 00
201	Geo. F. Davis, Dyer, Ind	7 00

Best boar 1 year and under 2.

No. 201	Geo. F. Davis, Dyer, Ind	10 00
93	J. R. Brabazon, Delavan	5 00

Best breeding sow 2 years and over.

No. 201	George F. Davis, Dyer, Ind	15 00
93	J. R. Brabazon, Delavan	7 00

Best breeding sow 1 year and under 2.

No. 201	Geo. F. Davis, Dyer, Ind	12 00
201	Geo. F. Davis, Dyer, Ind	8 00

Best breeding sow with litter of sucking pigs, not less than 4 in number, and not over 3 months old.

No. 201	Geo. F. Davis, Dyer, Ind	15 00
642	J. G. Ogden, Milwaukee	7 00

Best boar over 6 months and under 1 year.

No. 301	Geo. F. Davis, Dyer, Ind	8 00
93	J. R. Brabazon, Delavan	4 00

Best sow pig over 6 months and under 1 year.

No. 837	J. M. Scoville, Lowville	8 00
201	Geo. F. Davis, Dyer Ind	4 00

Best boar pig under 6 months.

No. 93	J. R. Brabazon, Delavan	6 00
375	J. T. Hill, Brookfield	3 00

Best sow pig under 6 months.

No. 93	J. R. Brabazon, Delavan	6 00
375	J. T. Hill, Brookfield	3 00

HERD SWEEPSTAKES.

Best boar any age.

No. 837	J. M. Scoville, Lowville	12 00

Best sow any age.

No. 201	Geo. F. Davis, Dyer, Ind	12 00

Best head of swine under 1 year old, the get of one boar, the sire to be shown with the herd, and considered in making the award.

No. 201	Geo. F. Davis, Dyer, Ind	15 00

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DEPARTMENT E—POULTRY.

CLASS 33.

Best pair Ligh Brahma fowls.

No.	1013	R. D. Warner, Whitewater	$3 00
	768	E. G. Roberts, Fort Atkinson	2 00

Best pair Light Brahma chicks.

No.	324	Chas. Gammerdinger, Columbus, Ohio	3 00
	93	J. R. Brabazon, Delavan	2 00

Best pair Dark Brahma fowls.

No.	324	Chas. Gammerdinger, Columbus, Ohio	3 00
	1013	R. D. Warner, Whitewater	2 00

Best pair Dark Brahma chicks.

No.	324	Chas. Gammerdinger, Columbus, Ohio	3 00
	93	J. R. Brabazon, Delavan	2 00

Best pair Buff Cochin fowls.

No.	324	Chas. Gammerdinger, Columbus, Ohio	3 00
	324	Chas. Gammerdinger, Columbus, Ohio	2 00

Best pair Buff Cochin chicks.

No.	324	Chas. Gammerdinger, Columbus, Ohio	3 00
	93	J. R. Brabazon, Delavan	2 00

Best pair Partridge Cochin fowls.

No.	324	Chas. Gammerdinger, Columbus, Ohio	3 00
	324	Chas. Gammerdinger, Columbus, Ohio	2 00

Best pair Partridge Cochin chicks.

No.	324	Chas. Gammerdinger, Columbus, Ohio	3 00
	324	Chas. Gammerdinger, Columbus, Ohio	2 00

Best pair White Cochin fowls.

No.	324	Chas. Gammerdinger, Columbus, Ohio	3 00
	93	J. R. Brabazon, Delavan	2 00

Best pair White Cochin chicks.

No.	324	Chas. Gammerdinger, Columbus, Ohio	3 00
	93	J. R. Brabazon, Delavan	2 00

Best pair Black Cochin fowls.

No.	324	Chas. Gammerdinger, Columbus, Ohio	3 00
	93	J. R. Brabazon, Delavan	2 00

Best pair Black Cochin chicks.

No.	93	J. R. Brabazon, Delevan	3 00
	324	Chas. Gammerdinger, Columbus, Ohio	2 00

Best pair Langshan fowls.

No.	1013	R. D. Warner, Whitewater	3 00
	768	E. G. Roberts, Fort Atkinson	2 00

Best pair Langshan chicks.

No.	324	Chas. Gammerdinger, Columbus, Ohio	3 00
	207	Peter De Gelke, Milwaukee	2 00

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AMERICAN.

Best pair Am. Dominique fowls.

No. 1013	R. D. Warner, Whitewater	$3 00
93	J. R. Brabazon, Delavan	2 00

Best pair Am. Dominique chicks.

No. 1013	R. D. Warner, Whitewater	3 00
93	J. R. Brabazon, Delavan	2 00

Best pair Plymouth Rock fowls.

No. 768	E. G. Roberts, Fort Atkinson	3 00
1013	R. D. Warner, Whitewater	2 00

Best pair Plymouth Rock chicks.

No. 1013	R. D. Warner, Whitewater	3 00
324	Chas. Gammerdinger, Columbus, Ohio	2 00

Best pair Wyandotte fowls.

No. 1013	R. D. Warner, Whitewater	3 00
324	Chas. Gammerdinger, Columbus, Ohio	2 00

Best pair Wyandotte chicks.

No. 324	Chas. Gammerdinger, Columbus, Ohio	3 00
1013	R. D. Warner, Whitewater	2 00

Best pair Colored Dorking fowls.

No. 324	Chas. Gammerdinger, Columbus, Ohio	3 00

Best pair Colored Dorking chicks.

No. 324	Chas. Gammerdinger, Columbus, Ohio	3 00

FRENCH.

Best pair Houdan fowls.

No. 324	Chas. Gammerdinger, Columbus, Ohio	3 00
768	E. G. Roberts, Fort Atkinson	2 00

Best pair Houdan chicks.

No. 324	Chas. Gammerdinger, Columbus, Ohio	3 00
1081	Yorgy & Rich, Horicon	2 00

POLISH.

Best pair Black Polish (white crested) fowls.

No. 324	Chas. Gammerdinger, Columbus, Ohio	3 00
324	Chas. Gammerdinger, Columbus, Ohio	2 00

Best pair Black Polish chicks.

No. 324	Chas. Gammerdinger, Columbus, Ohio	3 00
768	E. G. Roberts, Fort Atkinson	2 00

Best pair White Polish fowls.

No. 324	Chas. Gammerdinger, Columbus, Ohio	3 00
1013	R. D. Warner, Whitewater	2 00

Best Pair White Polish chicks.

No. 324	Chas. Gammerdinger, Columbus, Ohio	3 00
No. 1013	R. D. Warner, Whitewater	2 00

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Best pair Silver Polish fowls.

No.	1013	R. D. Warner, Whitewater	$3 00
	1013	R. D. Warner, Whitewater	2 00

Best pair Silver Polish chicks.

No.	324	Chas. Gammerdinger, Columbus, Ohio	3 00
	324	Chas. Gammerdinger, Columbus, Ohio	2 00

Best pair Golden Polish fowls.

No.	93	J. R. Brabazon, Delavan	3 00
	768	E. G. Roberts, Fort Atkinson	2 00

Best pair Golden Polish chicks.

No.	324	Chas. Gammerdinger, Columbus, Ohio	3 00
	324	Chas. Gammerdinger, Columbus, Ohio	2 00

GAME.

Best pair Brown Red fowls.

No.	768	E. G. Roberts, Fort Atkinson	3 00
	1013	R. D. Warner, Whitewater	2 00

Best pair Brown Red chicks.

No.	768	E. G. Roberts, Fort Atkinson	3 00
	93	J. R. Brabazon, Delavan	2 00

Best pair Black Breasted Red Game fowls.

No.	768	E. G. Roberts, Fort Atkinson	3 00
	531	Love Bros., Waukesha	2 00

Best pair Black Breasted Red Game chicks.

No.	324	Chas. Gammerdinger, Columbus, Ohio	3 00
	93	J. R. Brabazon, Delavan	2 00

Best pair Pyle fowls.

No.	1013	R. D. Warner, Whitewater	3 00
	93	J. R. Brabazon, Delavan	2 00

Best pair Pyle chicks.

No.	93	J. R. Brabazon, Delavan	3 00
	1013	R. D. Warner, Whitewater	2 00

Best pair Game any other variety fowls.

No.	768	E. G. Roberts, Fort Atkinson	3 00
	93	J. R. Brabazon, Delavan	2 00

Best pair Game any other variety chicks.

No.	324	Chas. Gammerdinger, Columbus, Ohio	3 00
	1013	R. D. Warner, Whitewater	2 00

HAMBURGS.

Best pair Black Hamburg fowls.

No.	768	E. G. Roberts, Fort Atkinson	3 00
	324	Chas. Gammerdinger, Columbus, Ohio	2 00

Digitized by Google

Best pair Black Hamburg chicks.

No.	324	Chas. Gammerdinger, Columbus, Ohio	$3 00
	93	J. R. Brabazon, Delavan	2 00

Best pair Silver Spangled Hamburg fowls.

No.	1013	R. D. Warner, Whitewater	3 00
	1081	Yorgy & Rich, Horicon	2 00

Best pair Silver Spangled Hamburg chicks.

No.	1081	Yorgy & Rich, Horicon	3 00
	768	E. G. Roberts, Fort Atkinson	2 00

Best pair Golden Spangled Hamburg chicks.

No.	93	J. R. Brabazon, Delavan	3 00
	93	J. R. Brabazon, Delavan	2 00

SPANISH AND LEGHORNS.

Best pair Black Spanish (white face) fowls.

No.	324	Chas. Gammerdinger, Columbus, Ohio	3 00
	93	J. R. Brabazon, Delavan	2 00

Best pair Black Spanish chicks.

No.	324	Chas. Gammerdinger, Columbus, Ohio	3 00
	1013	R. D. Warner, Whitewater	2 00

Best pair White Leghorn fowls.

No.	324	Chas. Gammerdinger, Columbus, Ohio	3 00
	93	J. R. Brabazon, Delavan	2 00

Best pair White Leghorn chicks.

No.	531	Love Bros., Waukesha	3 00
	1013	R. D. Warner, Whitewater	2 00

Best pair Brown Leghorn fowls.

No.	768	E. G. Roberts, Fort Atkinson	3 00
	324	Chas. Gammerdinger, Columbus, Ohio	2 00

Best pair Brown Leghorn chicks.

No.	768	E. G. Roberts, Fort Atkinson	3 00
	1013	R. D. Warner, Whitewater	2 00

BANTAMS.

Best pair Golden Seabright fowls.

No.	324	Chas. Gammerdinger, Columbus, Ohio	$3 00
	1013	R. D. Warner, Whitewater	2 00

Best pair Golden Seabright chicks.

No.	1013	R. D. Warner, Whitewater	3 00
	324	Chas. Gammerdinger, Columbus, Ohio	2 00

Best pair Silver Seabright fowls.

No.	324	Chas. Gammerdinger, Columbus, Ohio	3 00
	324	Chas. Gammerdinger, Columbus, Ohio	2 00

Best pair Silver Seabright chicks.

No.	324	Chas. Gammerdinger, Columbus, Ohio	3 00
	1013	R. D. Warner, Whitewater	2 00

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Best pair Silver Duckwing Game fowls.

No. 201	Geo. F. Davis & Co., Dyer, Ind	$3 00
93	J. R. Brabazon, Delavan	2 00

Best pair Silver Duckwing Game chicks.

No. 1013	R. D. Warner, Whitewater	3 00

Best pair Black Breasted Red Game fowls.

No. 1013	R. D. Warner, Whitewater	3 00
768	E. G. Roberts, Fort Atkinson.	2 00

Best pair Black Breasted Red Game chicks.

No. 201	Geo. F. Davis & Co., Dyer, Ind	3 00
1013	R. D. Warner, Whitewater	2 00

Best pair Black Rose Comb fowls.

No. 1013	R. D. Warner, Whitewater	3 00
93	J. R. Brabazon, Delavan	2 00

Best pair Black Rose Comb chicks.

No. 93	J. R. Brabazon, Delavan	3 00
1013	R. D. Warner, Whitewater	2 00

Best pair White Rose Comb fowls.

No. 324	Chas. Gammerdinger, Columbus, Ohio	3 00

Best pair Japanese fowls.

No. 201	Geo. F. Davis & Co., Dyer, Ind	3 00

Best pair Japanese chicks.

No. 1013	R. D. Warner, Whitewater	3 00

TURKEYS.

Best pair Bronze Turkey fowls.

No. 1013	R. D. Warner, Whitewater	$3 00
324	Chas. Gammerdinger, Columbus, Ohio	2 00

Best pair Bronze Turkey chicks.

No. 93	J. R. Brabazon, Delavan	3 00
1013	R. D. Warner, Whitewater	2 00

Best trio Common Turkey fowls.

No. 451	Samuel Jones, Hustisford	3 00
768	E. G. Roberts, Fort Atkinson	2 00

Best trio Common Turkey chicks.

No. 451	Samuel Jones, Hustisford	3 00
1013	R. D. Warner, Whitewater	2 00

Best pair White Holland Turkey fowls.

No. 451	Samuel Jones, Hustisford	3 00
1013	R. D. Warner, Whitewater	2 00

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Best pair White Holland Turkey chicks.

No. 1013	R. D. Warner, Whitewater	3 00
451	Samuel Jones, Hustisford	2 00

Best pair Wild Turkey fowls.

No. 768	E. G. Roberts, Fort Atkinson	3 00

Best pair Wilk Turkey chicks.

No. 93	J. R. Brabazon, Delavan	3 00

WATER FOWLS.

Best pair Toulose geese.

No. 1013	R. D. Warner, Whitewater	$3 00
93	J. R. Brabozon, Delavan	2 00

Best pair Embeden geese.

No. 324	Chas. Gammerdinger, Columbus, Ohio	3 00
93	J. R. Brabazon, Delavan	2 00

Best pair White China geese.

No. 93	J. R. Brabazon, Delavan	3 00
1013	R. D. Warner, Whitewater	2 00

Best pair Pekin ducks.

No. 1013	R. D. Warner, Whitewater	3 00
201	Geo. F. Davis & Co., Dyer, Ind	2 00

Best pair Aylesbury ducks.

No. 93	J. R. Brabazon, Delavan	5 00
531	Love Bros., Waukesha	2 00

Best pair Rouen ducks.

No. 768	E. G. Roberts, Fort Atkinson	3 00
824	Chas. Gammerdinger, Columbus, O	2 00

Best pair Muscovy ducks.

No. 93	J. R. Brabazon, Delavan	3 00
1013	R. D. Warner, Whitewater	2 00

Best pair Cayuga ducks.

No. 324	Chas. Gammerdinger, Columbus, O	3 00
1013	R. D. Warner, Whitewater	2 00

Best and greatest variety of poultry shown by one person.

No. 324	Chas. Gammerdinger, Columbus, O	5 00
1013	R. D. Warner, Whitewater	3 00

White Plymouth Rock fowls.

No. 768	E. G. Roberts, Fort Atkinson	3 00
531	Love Bros., Waukesha	2 00

White Plymouth Rock chicks.

No. 1013	R. D. Warner, Whitewater	3 00
531	Love Bros., Waukesha	2 00

Digitized by Google

DEPARTMENT F — AGRICULTURE.

CLASS 34. — *Field Products.*

Best samples spring wheat (Rio Grande or China Tea).

No. 332	A. L. Greengo, Coldgate	$5 00
1003	H. P. West, Fayetteville	3 00

Best sample spring wheat (Fife).

No. 208	J. C. Davis, Oshkosh	5 00
1003	H. P. West, Fayetteville	3 00

Best sample blue stem spring wheat.

No. 1003	H. P. West, Fayetteville	5 00
208	J. C. Davis, Oshkosh	3 00

Best any other spring variety.

No. 332	A. L. Greengo, Coldgate	5 00
13	D. L. Anderson, Merrill	3 00

Best white winter wheat.

No. 1003	H. P. West, Fayetteville	5 00
18	C. E. Angell, Oshkosh	3 00

Best red winter wheat.

No. 1003	H. P. West, Fayetteville	5 00
448	Geo. Jeffrey, Milwaukee	3 00

Best rye.

No. 332	A. L. Greengo, Coldgate	5 00
448	Geo. Jeffrey, Milwaukee	3 00

Best oats,

No. 1003	H. P. West, Fayetteville	5 00
173	Caldwell Bros., Morrisonville	3 00

Best white Schonen oats.

No. 16	C. E. Angell, Oshkosh	5 00
208	J. C. Davis, Oshkosh	3 00

Best barley.

No. 699	Geo. Pilgrim, West Granville	5 00
18	C. E. Angell, Oshkosh	3 00

Best buckwheat.

No. 1003	H. P. West, Fayetteville	5 00
18	C. E. Angell, Oshkosh	3 00

Best flax seed.

No. 16	Wm. Ablard, Byron	5 00
208	J. C. Davis, Oshkosh	3 00

Best timothy seed.

No. 173	Caldwell Bros., Morrisonville	5 00
1122	J. C. Zimmerman, Butler	3 00

Digitized by Google

Best clover seed.

No.	322	J. C. Loomis, Alma Center	5 00
	94	S. A. Baird, Waukesha	3 00

Best variety red top.

No.	18	C. E. Angell, Oshkosh	3 00

Best Hungarian millet.

No.	18	C. E. Angell, Oshkosh	3 00

Best of any other variety.

No.	18	C. E. Angell, Oshkosh	3 00

Best field peas.

No.	208	J. C. Davis, Oshkosh	3 00

Best peas of any other variety.

No.	16	Wm. Ablard, Byron	3 00
	889	Myron Turrill, Bay View	2 00

Best navy beans.

No.	1024	Barron Co. exhibit	5 00
	208	J. C. Davis, Oshkosh	3 00

Best beans of any other variety.

No.	208	J. C. Davis. Oshkosh	5 00
	322	J. C. Loomis, Alma Center	3 00

Best dent corn, white.

No.	837	Scoville & Son, Lowville	5 00
	208	J. C. Davis, Oshkosh	3 00

Best dent corn, yellow.

No.	1003	H. P. West, Fayetteville	5 00
	177	S. S. Craig, Caldwell	3 00

Best flint corn, white.

No.	177	S. S. Craig, Caldwell	5 00
	1006	Elmer G. Ward, Caldwell	3 00

Best flint corn, yellow.

No.	1003	H. P. West, Fayetteville	5 00
	370	Wm. Harland, Duplainsville	3 00

Best Dutton corn.

No.	1006	Elmer G. Ward, Caldwell	5 00
	177	S. S. Craig, Caldwell	3 00

Best bushel corn in the ear, any variety.

No.	277	S. S. Craig, Caldwell	5 00
	1006	Elmer G. Ward, Caldwell	3 00

Best quality and display of tobacco leaf.

No.	173	Caldwell Bros., Morrisonville	5 00
	177	S. S. Craig, Caldwell	3 00
	828	Steinberger & Co., Milwaukee	Diploma

Best six pumpkins.

No.	173	Caldwell Bros., Morrisonville	3 00
	1006	Elmer G. Ward, Caldwell	2 00

Digitized by Google

Best display of grains on stalk.

No.	18	C. E. Angell	$5 00
	173	Caldwell Bros., Morrisonville	3 00

Best exhibition of field products grown in the state, including not less than 12 varieties in all, each sample to be free to compete for the foregoing individual prizes, both quality and number considered, and being not less in quantity than as above specified.

No.	1003	H. P. West, Fayetteville	20 00
	18	C. E. Angell, Oshkosh	10 00

CLASS 35.—*Garden and Vegetable Produce.*

Best Early Rose or Ohio potatoes.

No.	604	H. E. Nicolai, Big Bend	$3 00
	379	D. B. Harrington, Delavan	2 00

Best Beauty of Hebron.

No.	379	D. B. Harrington, Delavan	3 00
	881	W. W. Thompson, Bay View	2 00

Best any other variety of early potatoes.

No.	1003	H. P. West, Fayetteville	3 00
	379	D. B. Harrington, Delavan	2 00

Best Snowflake potatoes.

No.	173	Caldwell Bros., Morrisonville	3 00
	370	Wm. Harland, Duplainsville	2 00

Best Burbank seeding potatoes.

No.	881	W. W. Thompson, Bay View	3 00
	1003	H. P. West, Fayetteville	2 00

Best any other variety of late potatoes.

No.	379	D. B. Harrington, Delavan	3 00
	1003	H. P. West, Fayetteville	2 00

Best and largest variety of potatoes.

No.	379	D. B. Harrington, Delavan	5 00
	1003	H. P. West, Fayetteville	2 00

Best Yellow Nansemond sweet potatoes.

No.	1003	H. P. West, Fayetteville	3 00
	881	W. W. Thompson, Bay View	2 00

Best Red Bermuda sweet potatoes.

No.	881	W. W. Thompson, Bay View	3 00

Best 4 quarts Lima beans, shelled.

No.	1003	H. P. West, Fayetteville	3 00
	694	N. B. Porter, Fox Lake	2 00

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Best Turnip beets.

No. 881	W. W. Thompson, Bay View	3 00
370	Wm. Harland, Duplainesville	2 00

Best Long Blood beets.

No. 1005	C. Wynoble, St. Francis	3 00
881	W. W. Thompson, Bay View	2 00

Best Mangel Wurtzel.

No. 370	Wm. Harland, Duplainesville	3 00
322	J. C. Loomis, Alma Center	2 00

Best Red Weathersfield onions.

No. 881	W. W. Thompson, Bay View	3 00
370	Wm. Harland, Duplainesville	2 00

Best Yellow Danvers.

No. 1005	C. Wynoble, St. Francis	3 00
371	H. Haetch, Root Creek	2 00

Best white variety of onions.

No. 881	W. W. Thompson, Bay View	3 00
489	Geo. J. Kellogg, Janesville	2 00

Best drum head cabbage.

No. 1006	Elmer G. Ward, Caldwell	3 00
1005	C. Wynoble, St. Francis	2 00

Best 3 cabbages of any other variety.

No. 881	W. W. Thompson, Bay View	3 00
1006	Elmer G. Ward, Caldwell	2 00

Best Long Orange carrots.

No. 1005	C. Wynoble, St. Francis	3 00
881	W. W. Thompson, Bay View	2 00

Best Horn carrots.

No. 881	W. W. Thompson, Bay View	3 00
1005	C. Wynoble, St. Francis	2 00

Best head cauliflower.

No. 13	D. L. Anderson, Merrill	3 00
1003	H. P. West, Fayetteville	2 00

Best 10 head celery.

1006	Elmer G. Ward, Caldwell	3 00
13	D. L. Anderson, Merrill	2 00

Best 12 ears early sweet corn.

No. 208	J. C. Davis, Oshkosh	3 00
177	S. S. Craig, Caldwell	2 00

Best 12 ears late sweet corn.

No. 1006	Elmer G. Ward, Caldwell	3 00
177	S. S. Craig, Caldwell	2 00

Best 6 egg plants.

No. 1006	Elmer G. Ward, Caldwell	2 00
177	S. S. Craig, Caldwell	1 00

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Best 6 watermelons.

No.	1006	Elmer G. Ward, Caldwell	$3 00

Best 6 nutmeg melons.

No.	1006	Elmer G. Ward, Caldwell	3 00
	1005	C. Wynoble, St. Francis	2 00

Best parsnips.

No.	881	W. W. Thompson, Bay View	3 00
	1005	C. Wynoble, St. Francis	2 00

Best 12 large red peppers.

No.	1006	Elmer G. Ward, Caldwell	2 00
	881	W. W. Thompson, Bay View	1 00

Best 12 large yellow peppers.

	881	W. W. Thompson, Bay View	2 00

Best peck vegetable oysters.

No.	1005	C. Wynoble, St. Francis	2 00
	881	W. W. Thompson, Bay View	1 00

Best 6 Hubbard squashes.

No	881	W. W. Thompson, Bay View	3 00
	1005	C. Wynoble, St. Francis	2 00

Largest squash of any variety.

No.	1005	C. Wynoble, St. Francis	3 00
	881	W. W. Thompson, Bay View	2 00

Best 12 tomatoes.

No.	1005	C. Wynoble, St. Francis	3 00
	692	A. Patterson, Caldwell	2 00

Best flat turnips.

No.	13	D. L. Anderson, Merrill	3 00
	322	J. C. Loomis, Alma Center	2 00

Best rutabagas.

No.	832	Moses Stevenson, Walworth	3 00
	177	S. S. Craig, Caldwell	2 00

Best exhibition by professionals, including not less than five specimens of vegetables, not less than 12 varieties in all, both quality and number of varieties to be considered.

No.	881	W. W. Thompson, Bay View	5 00

Best exhibition by non-professionals, including not less than 5 specimens of vegetables, not less than 12 varieties in all, both quality and number of varieties to be considered.

No.	1006	Elmer G. Ward, Caldwell	5 00
	177	S. S. Craig, Caldwell	3 00

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CLASS 36.—*Products of the Flouring Mill, Dairy and Apiary.*

FACTORY CHEESE — CHEDDER SHAPE.

Best three boxes of cheese made at any time, of not less than 150 pounds.

No.	103	C. J. Breitruck, Lagolie	$30 00
	822	L. F. Skinner, Brandon	15 00
	288	Daniel Falck, Morrison	7 00

FACTORY CHEESE — FLATS.

Best four boxes of cheese made at any time, of not less than 120 pounds.

No.	286	John Frick, Plymouth	$30 00
	835	John Staker, Plymouth	15 00
	820	Smith & Eastman, Saukville	7 00

YOUNG AMERICA CHEESE.

Best three boxes of not less than four in a box, made at any time.

No.	813	Ed. Schneider, Howard's Grove	$20 00
	1008	Fred. Widder, Sheboygan Falls	15 00
	286	John Frick, Plymouth	7 00

CREAMERY BUTTER — FROM GATHERED CREAM.

For best three tubs of butter, of not less than 60 pounds each, made at any time.

No.	104	W. J. Bordner, Ripon	$30 00
	335	E. A. Galloway, Fond du Lac	15 00
	1004	Robt. Wittke, Beaver Dam	7 00

CREAMERY BUTTER — FROM WHOLE MILK.

For best three tubs of butter, not less than 60 pounds each, made at any time.

No.	887	Thayer Refrig. Milk Co., Trevor	$30 00
	369	Hollister & Lundborg, Hillsborough	15 00
	372	A. R. Hoard, Fort Atkinson	7 00

DAIRY BUTTER.

For best package of dairy butter, made at any time. In this class butter may be in 8 pound bailed boxes, or in any tub of 25 pounds or less. (*No jars allowed.*)

No.	268	Mrs. Helen Hastings, Kenosha	$20 00
	339	Mrs. E. J. Grover, Wauwatosa	10 00
	574	M. McKinnon, Sheboygan Falls	7 00

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PRINT BUTTER.

For best exhibit of not less than 10 pounds.

No. 339	Mrs. E. J. Grover, Wauwatosa	$15 00
826	O. J. Swan, Wauwatosa	10 00
891	F. W. Tratt, Whitewater	5 00

BUTTER IN NOVEL FORMS OR DESIGNS.

For the best exhibit of not less than 10 pounds.

No. 891	F. W. Tratt, Whitewater	$15 00

GRANULATED BUTTER.

Best jar of Granulated butter. Butter in this class must be shown in glass jars, of not less than 2 quarts each.

No. 326	N. C. Gehl, Nenno	$5 00
383	A. J. Hay, Raymond	3 00

HONEY, SUGAR, SYRUP.

Best sample 12 lbs. or more of comb honey in most marketable shape.

No. 334	C. H. Green, Waukesha	$5 00
4	Geo. Acker, Butler	3 00

Best sample extracted honey, 5 pounds or more, in most marketable shape.

No. 334	C. H. Green, Waukesha	5 00
332	A. L. Greengo, Coldgate	3 00

Best bee hive for comb honey.

No. 334	C. H. Green, Waukesha	2 00

Best bee hive for extracted honey.

No. 4	Geo. Acker, Butler	2 00

Best honey extractor.

No. 334	C. H. Green, Waukesha	2 00
332	A. L. Greengo, Coldgate	1 00

Best colony of Italian bees in observatory hive.

No. 4	Geo. Acker, Butler	5 00
334	C. H. Green, Waukesha	3 00

Best wax extractor.

No. 332	A. L. Greengo, Coldgate	1 00
334	C. H. Green, Waukesha	1 00

Best display of apiarian tools and fixtures.

No. 334	C. H. Green, Waukesha	4 00
232	A. L. Greengo, Coldgate	2 00

Best samples comb foundation.

No. 4	Geo. Acker, Butler	2 00
334	C. H. Green, Waukesha	1 00

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Best samples beeswax, 5 pounds or more.

No. 334	C. H. Green, Waukesha	$2 00
332	A. L. Greengo, Coldgate	1 00

SPECIAL PREMIUMS.

An elegant silver tea set, valued at $63, offered by R. M. Boyd, Racine Wis., agent for Butters & Peters' Salt Co., of Ludington, Mich., for the best package of dairy butter, not less than 25 pounds, salted with their salt. Award to:

No. 826 O. J. Swan, Wauwatosa

DEPARTMENT G—FRUITS AND FLOWERS.

CLASS 37.—*Fruit by Professional Cultivators.*

APPLES.

Best display of varieties not to exceed 20.

No. 361	Chas. Hirschinger, Baraboo	$10 00
283	Wm. Fox, Baraboo	7 00
1001	E. Wilcox & Son, La Crosse	3 00

Best display of 10 varieties.

No. 283	Wm. Fox, Baraboo	6 00
690	A. J. Phillips, West Salem	4 00
1001	E. Wilcox & Son, La Crosse	2 00

Best five varieties adapted to northwest.

No. 690	A. J. Phillips, West Salem	7 00
283	Wm. Fox, Baraboo	5 00
1001	E. Wilcox & Son, La Crosse	2 00

Best 5 varieties winter.

No. 684	J. C. Plumb, Milton	3 00
318	Wm. A. Springer, Fremont	2 00
361	Chas. Hirschinger, Baraboo	1 00

Best show of 10 varieties large and showy apples.

No. 361	Chas. Hirschinger, Baraboo	3 00
684	J. C. Plumb, Milton	1 00

Best show seedling apples, not less than 5 varieties each.

No. 686	G. P. Peffer, Pewaukee	10 00
690	E. Wilcox & Son, La Crosse	5 00

Best seedling apples, adaptation and quality considered.

No. 690	E. Wilcox & Son, La Crosse	4 00
686	G. P. Peffer, Pewaukee	2 00

Digitized by Google

Best show of ten varieties of Russian apples.

No. 686	G. P. Peffer, Pewaukee	$10 00
361	Chas. Hirschinger, Baraboe	7 00
283	Wm. Fox, Baraboo	3 00

Best plate Duchess of Oldenburg.

No. 690	A. J. Phillips, West Salem	1 00

Best plate of Fameuse.

No. 1001	E. Wilcox & Son, La Crosse	1 00

Best plate of Golden Russett.

No. 361	Chas. Hirschinger, Baraboo	1 00

Best plate of Pewaukee.

No. 684	J. C. Plumb, Milton	1 00

Best plate of St. Lawrence.

No. 204	E. W. Daniels, Auroraville	1 00

Best plate of Tallman Sweet.

No. 361	Chas. Hirschinger, Baraboo	1 00

Best plate of Utter.

No. 1001	E. Wilcox & Son, La Crosse	1 00

Best plate Alexander.

No. 818	Wm. A Springer, Fremont	1 00

Best plate Plumb Cider.

No. 684	J. C. Plumb, Milton	1 00

Best plate Wealthy.

No. 1001	E. Wilcox & Son, La Crosse	1 00

Best plate McMahon's White.

No. 1001	E. Wilcox & Son, La Crosse	1 00

Best plate Orange Winter.

No. 283	Wm. Fox, Baraboo	1 00

Best plate Wolf River.

No, 818	Wm. A. Springer, Fremont	1 00

Best plate N. W. Greening.

No. 204	E. W. Daniels, Auroraville	1 00

Best plate Haas.

No. 361	Chas. Hirschinger, Baraboo	1 00

Best plate Fall Orange.

No. 1001	E. Wilcox & Son, La Crosse	1 00

Best plate Repkamalenka.

No. 686	G. P. Peffer, Pewaukee	1 00

Best plate Longfield.

No. 283	Wm. Fox, Baraboo	1 00

Digitized by Google

Best plate Yellow Transparent.

No.	263	Wm. Fox, Baraboo	$1 00

Best plate Antonofka.

No.	283	Wm. Fox, Baraboo	1 00

Best plate Hibernal.

No.	283	Wm. Fox, Baraboo	1 00

Best plate Switzer.

No.	283	Wm. Fox, Baraboo	1 00

Largest apple.

No.	818	Wm. A. Springer, Fremont	1 00

Handsomest apple.

No.	489	Geo. J. Kellogg, Janesville	1 00

PEARS.

Best and greatest display of varieties not to exceed five.

No.	686	G. P. Peffer, Pewaukee	3 00
	283	Wm. Fox, Baraboo	2 00

Best three varieties.

No.	686	G. P. Peffer Pewaukee	3 00
	283	Wm. Fox, Baraboo	1 00

Best Flemish Beauty.

No.	684	J. C. Plumb, Mil on	2 00
	361	Chas. Hirschinger, Baraboo	1 00

PLUMS.

Best and greatest variety.

No.	361	Chas. Hirschinger, Baraboo	3 00
	489	Geo. J. Kellogg, Janesville	2 00
	283	Wm. Fox, Baraboo	1 00

Best 3 varieties.

No.	361	Chas. Hirschinger, Baraboo	2 00
	489	Geo. J. Kellogg, Janesville	1 00

Best collection of native.

No.	489	Geo. J. Kellogg, Janesville	2 00

Best plate of native.

No.	1001	E. Wilcox & Son, La Crosse	

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CLASS 38.— *Grapes and Crabs by Professional Cultivators.*

GRAPES.

Best and greatest display of varieties, five specimens each.

No.	283	Wm. Fox, Baraboo	$7 00
	489	Geo. J. Kellogg, Janesville	5 00
	686	G. P. Peffer, Pewaukee	3 00

Best 10 varieties.

No.	283	Wm. Fox, Baraboo	5 00
	489	Geo. J. Kellogg, Janesville	3 00

Best 5 varieties, 3 specimens.

No.	489	Geo. J. Kellogg, Janesville	3 00
	283	Wm. Fox, Baraboo	2 00
	686	G. P. Peffer, Pewaukee	1 00

Best 3 bunch Concord on one cane.

No.	283	Wm. Fox, Baraboo	2 00
	489	Geo. J. Kellogg, Janesville	1 00

Best 3 bunch Delaware on one cane.

No.	283	Wm. Fox, Baraboo	2 00
	489	Geo. J. Kellogg, Janesville	1 00

Best 3 bunch Worden on one cane.

No.	283	Wm. Fox, Baraboo	2 00
	489	Geo. J. Kellogg, Janesville	1 00

Best 3 bunch Moore's Early on one cane.

No.	283	Wm. Fox, Baraboo	2 00

Best 3 bunch Brighton on one cane.

No.	283	Wm. Fox, Baraboo	2 00

Best 3 bunch Early Victor on one cane.

No.	283	Wm. Fox, Baraboo	2 00

Best 3 bunch Duchess on one cane.

No.	283	Wm. Fox, Baraboo	2 00

Best 3 bunch Empire State on one cane.

No.	283	Wm. Fox, Baraboo	2 00

Best 3 bunch Lindley on one cane.

No.	283	Wm. Fox, Baraboo	2 00
	686	G. P. Peffer, Pewaukee	1 00

Best single variety, quality to rule.

No.	489	Geo. J. Kellogg, Janesville	3 00
	489	Geo. J. Kellogg, Janesville	2 00

Best plate Lady.

No.	283	Wm. Fox, Baraboo	1 00

Best plate Pocklington.

No.	283	Wm. Fox, Baraboo	1 00

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Best plate Lady Washington.

No. 283	Wm. Fox, Baraboo	1 00

Best plate Vergennes.

No. 283	Wm. Fox, Baraboo	1 00

Best plate Agawam.

No. 283	Wm. Fox, Baraboo	1 00

Best plate Merrimac.

No. 283	Wm. Fox, Baraboo	1 00

Best plate Worden.

No. 489	Geo. J. Kellogg, Janesville	1 00

Best plate Moore's Early.

No. 283	Wm. Fox, Baraboo	1 00

Best plate Brighton.

No. 283	Wm. Fox, Baraboo	1 00

Best plate Concord.

No. 489	Geo. J. Kellogg, Janesville	1 00

CRABS.

Best and greatest variety named, not to exceed 10.

No. 690	A. J. Phillips, West Salem	$4 00
1001	E. Wilcox & Son, La Crosse	2 00
361	Chas. Hirschinger, Baraboo	1 00

Best plate Hyslop.

No. 690	A. J. Phillips, West Salem	1 00

Best plate Transcendant.

No. 690	A. J. Phillips, West Salem	1 00

Best plate Whitney, No. 20.

No. 690	A. J. Phillips, West Salem	1 00

Best plate Sweet Russet Seedling crab.

No. 690	A. J. Phillips, West Salem	2 00

SWEEPSTAKES ON FRUIT OF ALL KINDS.

Best collection fruit of all kinds.

No. 283	Wm. Fox, Baraboo	$12 00
361	Chas. Hirschinger, Baraboo	9 00
686	G. P. Peffer, Pewaukee	6 00
489	Geo. J. Kellogg, Janesville	4 00

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CLASS 39.— *Fruit by Non-Professional Cultivators.*

APPLES.

Best display of varieties not to exceed 20.

No.	365	Geo. Haines, Baraboo	$10 00
	683	Jay S. Palmer, Baraboo	7 00
	827	E. A. Swan, Wauwatosa	3 00

Best display of 10 varieties.

No.	448	Geo. Jeffrey, Milwaukee	6 00
	365	Geo. Hanes, Baraboo	4 00
	683	Jay S. Palmer, Baraboo	2 00

Best 5 varieties adapted to northwest.

No.	448	Geo. Jeffrey, Milwaukee	7 00
	209	John Dey, Hortonville	5 00
	683	J. S. Palmer, Baraboo	2 00

Best 5 varieties winter.

No.	365	Geo. Haines, Baraboo	3 00
	683	J. S. Palmer, Baraboo	2 00
	448	Geo. Jeffrey, Milwaukee	1 00

Best show of 10 varieties, large showy apples.

No.	365	Geo. Haines, Baraboo	5 00
	827	E. A. Swan, Wauwatosa	3 00
	683	Jay S. Palmer, Baraboo	1 00

Best show of seedling apples, not less than 5 varieties.

No.	1011	E. Wrightman, Weyauwega	10 00
	817	Albert Smith, Weyauwega	00

Best seedling apple, adaptation and quality considered.

No.	817	Albert Smith, Weyauwega	4 00
	1011	E. Wrightman, Weyauwega	2 00

Best show of 10 varieties of Russian apples.

No.	365	Geo. Haines, Baraboo	10 00
	448	Geo. Jeffrey, Milwaukee	7 00

Best plate of Duchess of Oldenburg.

No.	209	John Dey, Hortonville	1 00

Best plate of Fameuse.

No.	365	Geo. Haines, Baraboo	1 00

Best plate of Golden Russet.

No.	448	Geo. Jeffrey, Milwaukee	1 00

Best plate of Pewaukee.

No.	683	Jay S. Palmer, Baraboo	1 00

Best plate of St. Lawrence.

No.	683	Jay S. Palmer, Baraboo	1 00

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Best plate of Tallman Sweet.
No. 606 Mrs. Edwin Nye, Appleton $1 00

Best plate of Utter.
No. 683 Jay S. Palmer, Baraboo 1 00

Best plate of Alexander.
No. 827 E. A. Swan, Wauwatosa 1 00

Best plate of Plumb Cider.
Mo. 683 Jay S. Palmer, Baraboo 1 00

Best plate of Wealthy.
No. 16 Wm. Ablard, Byron 1 00

Best plate of McMahon White.
No. 827 E. A. Swan, Wauwatosa 1 00

Best plate of Orange Winter.
No. 683 Jay S. Palmer, Baraboo 1 00

Best plate of Wolf River.
No. 1011 E. Wrightman, Weyauwega 1 00

Best plate Haas.
No. 683 Jay S. Palmer, Baraboo 1 00

Best plate of Fall Orange.
No. 683 Jay S. Palmer, Baraboo 1 00

Best plate of Repkamalenka.
No. 365 Geo. Haines, Baraboo 1 00

Best plate Longfield.
No. 365 Geo. Haines, Baraboo 1 00

Best plate of Yellow Transparent.
No. 365 Geo. Haines, Baraboo 1 00

Best plate of Antonofka.
No. 365 Geo. Haines, Baraboo 1 00

Best plate of Hibernal.
No. 365 Geo. Haines, Baraboo 1 00

Best plate Switzer.
No. 365 Geo. Haines, Baraboo 1 00

Largest apple.
No. 1011 E. Wrightman, Weyauwega 1 00

Handsomest apple.
No. 1011 E. Wrightman, Weyauwega 1 00

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PEARS.

Best and greatest display of varieties not to exceed 5.

No.	448	Geo. Jeffrey, Milwaukee	$4 00
	683	J. S. Palmer, Baraboo	2 00

Best 3 varieties.

No.	448	Geo. Jeffrey, Milwaukee	2 00

Best Flemish Beauty.

No.	4	Geo. Acker, Butler	2 00
	448	Geo. Jeffrey, Milwaukee	1 00

PLUMBS.

Best and greatest variety.

No.	448	Geo. Jeffrey, Milwaukee	$4 00
	683	Jay S. Palmer, Baraboo	2 00

Best 3 varieties.

No.	448	Geo. Jeffrey, Milwaukee	2 00

Best plate of natives.

No.	448	Geo. Jeffrey, Milwaukee	1 00

CLASS 40.—*Grapes and Crabs by Non-Professional Cultivators.*

GRAPES.

Best and greatest display of varieties.

No.	365	Geo. Haines, Baraboo	$10 00
	683	Jay S. Palmer, Baraboo	7 00
	448	Geo. Jeffrey, Milwaukee	3 00

Best 10 varieties.

No.	365	Geo. Haines, Baraboo	5 00
	683	Jay S. Palmer, Baraboo	3 00

Best 5 varieties.

No.	683	Jay S. Palmer, Baraboo	3 00
	365	Geo. Haines, Baraboo	2 00

Best 3 bunches Concord on one cane.

No.	683	Jay S. Palmer, Baraboo	2 00
	365	Geo. Haines, Baraboo	1 00

Best 3 bunches Delaware on one cane.

No.	365	Geo. Haines, Baraboo	2 00
	683	Jay S. Palmer, Baraboo	1 00

Digitized by Google

Best 3 bunches Worden on one cane.

No.	365	Geo. Haines, Baraboo	$2 00
	683	Jay S. Palmer Baraboo	1 00

Best 3 bunches Moore's Early on one cane.

No.	683	Jay S. Palmer, Baraboo	2 00
	365	Geo. Haines, Baraboo	1 00

Best 3 bunches Brighton on one cane.

	365	Geo. Haines, Baraboo	2 00
	683	Jay S. Palmer, Baraboo	1 00

Best 3 bunches Early Victor on one cane.

No.	365	Geo. Haines, Baraboo	2 00
	683	Jay S. Palmer, Baraboo	1 00

Best 3 bunches Duchess on one cane.

No.	365	Geo. Haines, Baraboo	2 00

Best 3 bunches Lindley on one cane.

No.	683	Jay S. Palmer, Baraboo	2 00
	365	Geo. Haines, Baraboo	1 00

Best single variety, quality to rule.

No.	688	Jay S. Palmer, Baraboo	3 00
	365	Geo. Haines, Baraboo	2 00

Best plate Lady.

No.	365	Geo. Haines, baraboo	1 00

Best plate Pocklington.

No.	683	Jay S. Palmer, Baraboo	1 00

Best plate Lady Washington.

No.	365	Geo. Haines, Baraboo	1 00

Best plate Vergennes.

No.	365	Geo. Haines, Baraboo	1 00

Best plate Merrimac.

No.	683	Jay S. Palmer, Baraboo	1 00

Best plate Concord.

No.	683	Jay S. Palmer, Baraboo	1 00

Best plate Brighton.

No.	365	Geo. Haines, Baraboo	1 00

Best plate Moore's Early.

No.	365	Geo. Haines, Baraboo	1 00

Best plate Worden.

No.	683	Jay S. Palmer, Baraboo	1 00

Digitized by Google

CRABS.

Best and greatest variety named.

No.	448	Geo. Jeffrey, Milwaukee	$4 00
	365	Geo. Haines, Baraboo	2 00
	683	Jay S. Palmer, Baraboo	7 00

Best plate Hyslop.

No.	683	Jay S. Palmer, Baraboo	1 00

Best plate Transcendent.

No.	365	Geo. Haines, Baraboo	1 00

Best plate Whitney, No. 20.

No.	448	Geo. Jeffrey, Milwaukee	1 00

Best Sweet Russett Seedling crab.

No.	827	E. A. Swan, Wauwatosa	2 00

SWEEPSTAKES ON FRUIT OF ALL KINDS.

Best collections fruit of all kinds.

No.	448	Geo. Jeffrey, Milwaukee	$12 00
	365	Geo. Haines, Baraboo	9 00
	683	Jay S. Palmer, Baraboo	6 00

CLASS 41.— *Nursery Trees.*

Best collection of deciduous nursery grown trees, quality to rule.

No.	684	J. C. Plumb, Milton	Diploma

Collection of evergreens.

No.	684	J. C. Plumb, Milton	Diploma
No.	840	Otto Schmidt, Sheboygan	Diploma

Best collection fruit trees.

No.	684	J. C. Plumb, Milton	Diploma

Best collection apple trees.

No.	361	Chas. Herschinger, Baraboo	Diploma

CLASS 42.— *Flowers by Professional Cultivators.*

Best and most artistically arranged floral design.

No.	1019	C. B. Whitnall & Co., Milwaukee	$6 00
	179	Currie Bros., Milwaukee	4 00
	780	Geo. W. Ringrose, Wauwatosa	2 00

Digitized by Google

Best and most tastefully arranged basket of flowers.

No. 1019	C. B. Whitnall & Co., Milwaukee	$3 00
179	Currie Bros. Milwaukee	2 00

Best collection cut flowers.

No. 1019	O. B. Whitnall & Co., Milwaukee	4 00
179	Currie Bros., Milwaukee	3 00

Best boquet.

No. 1019	C. B. Whitnall & Co., Milwaukee	3 00
179	Currie Bros., Milwaukee	2 00

Best 10 named dahlias.

No. 684	J. C. Plumb, Milton	2 00

Best display roses.

No. 780	Geo. W. Ringrose, Wauwatosa	3 00

Best 5 named variety of roses.

No. 780	Geo. W. Ringrose, Wauwatosa	3 00

Best display verbenas.

No. 780	Geo. W. Ringrose, Wauwatosa	3 00

Best show pansies.

No. 885	Wm. Toole, Baraboo	2 00

Best show astors.

No. 885	Wm. Toole, Baraboo	1 00

Best show gladiolus.

No. 1019	C. B. Whitnall & Co	2 00

Best show green house plants, not less than 25 or more than 50 varieties.

No. 179	Currie Bros., Milwaukee	10 00
1019	C. B. Whitnall & Co	6 00
780	Geo. W. Ringrose, Wauwatosa	4 00

Best 20 varieties green house plants in bloom.

No. 780	Geo. Ringrose, Wauwatosa	5 00
179	Currie Bros., Milwaukee	3 00

Best 10 geraniums.

No. 179	Currie Bros., Milwaukee	5 00

Best 6 fuchsias.

No. 780	Geo. W. Ringrose, Wauwatosa	4 00
179	Currie Bros., Milwaukee	2 00

Best display of flowers of all kinds grown by the exhibitor.

No. 1019	C. B. Whitnall & Co	6 00
179	Currie Bros., Milwaukee	3 00

Digitized by Google

Best display of ornamental foliage plants, not less than 15 varieties.

No.	179	Currie Bros., Milwaukee	5 00
	1019	C. B. Whitnall & Co	3 00

Best display of flowers.

No.	197	Currie Bros., Milwaukee	Diploma
	1019	C. B. Whitnall & Co	Diploma
	780	Geo. W. Ringrose, Wauwatosa	Diploma

Best display of ferns.

No.	1019	C. B. Whitnall & Co	Diploma

CLASS 43.— *Flowers by Non-Professional Cultivators.*

Best and most artistically arranged floral design.

No.	836	M. V. Sheldon, Racine	$5 00
	776	Mrs. C. H. Root, Ripon	3 00

Best collection cut flowers.

No.	776	Mrs. C. H. Root, Ripon	4 00
	370	Wm. Harland, Duplainsville	3 00

Best and most tastefully arranged basket of flowers.

No.	836	M. V. Sheldon Racine	3 00
	776	Mrs. C. H. Root, Ripon	2 00

Best bouquet.

No.	776	Mrs. C. H. Root, Ripon	3 00
	836	M. V. Sheldon, Racine	2 00

Best pair round bouquets.

No.	776	Mrs. C. H. Root, Ripon	2 00

Best pair flat table bouquets.

No.	776	Mrs. C. H. Root, Ripon	2 00

Best bouquet Everlasting flowers.

No.	370	Wm. Harland, Duplainsville	2 00

Best display dahlias, not more than 20 varieties.

No.	691	K. F. Peffer, Pewaukee	2 00

Best 10 named dahlias.

No.	691	K. F. Peffer, Pewaukee	2 00

Best display Verbenas.

No.	776	Mrs. C. H. Root, Ripon	2 00

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Best show Asters in quality and variety.
No. 776 Mrs. C. H. Root, Ripon..... $2 00

Best show Perennial Phlox.
No. 836 M. V. Sheldon, Racine..... 1 00

Best show Pansies.
No. 370 Wm. Harland, Duplainsville 2 00

Best show Double Petunias.
No. 776 Mrs. C. H. Root, Ripon..... 1 00

Best show Dianthuses (pink).
No. 776 Mrs. C. H. Root, Ripon..... 1 00

Best show Gladiolus.
No. 836 M. V. Sheldon, Racine..... 2 00

Best show Phlox Drummondi.
No. 776 Mrs. C. H. Root, Ripon..... 1 00

Best show Lilies.
No. 836 M. V. Sheldon, Racine..... 1 00

Best show stocks.
No. 776 Mrs. C. H. Root, Ripon..... 1 00

Best show Green House Plants, not less than 25 nor more than 50.
No. 485 Mrs. C. C. Kingsley, Milwaukee..... 5 00

Best 10 varieties Green House Plants in bloom.
No. 485 Mrs. C. C. Kingsley, Milwaukee..... 3 00

Best 10 Geraniums.
No. 485 Mrs. C. C. Kingsley, Milwaukee..... 3 00

Best 6 Fuchias.
No. 485 Mrs. C. C. Kingsley, Milwaukee..... 2 00

Best display flowers raised by exhibitor.
No. 485 Mrs. C. C. Kingsley, Milwaukee..... 6 00

Best show ornamental foliage plants, not more than 10 varieties.
No. 485 Mrs. C. C. Kingsley, Milwaukee..... 5 00

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DEPARTMENT I — MANUFACTURES.

CLASS 45.— *Stone Cutter's Work and Other Building Material.*

Best roofing material other than shingle.
No. 363 F. E. Hoyt, Rochester, Wis..... $5 00

Best 4 window blinds.
No. 1015 Wisconsin Venetian Blind Co., Milwaukee..... 5 00

CLASS 47.— *Stoves, Furnaces, Hollow Ware and Articles of Hardware.*

Best cooking stove for coal.
No. 90 Brand Stove Co., Milwaukee..... $5 00

Best cooking stove for wood.
No. 90 Brand Stove Co., Milwaukee..... 5 00

Best cooking range for families.
No. 803 Schwartz & Co., Milwaukee..... 5 00

Best ornamental parlor stove.
No. 90 Brand Stove Co., Milwaukee..... 5 00

Best display of stoves.
No. 90 Brand Stove Co., Milwaukee..... Gr. Sil. Med.

Best exhibition brass and copperware.
No. 803 Schwartz & Co., Milwaukee..... Diploma

Best hay scales.
No. 322 H. B. Gaston & Son, Beloit..... Diploma

Best refrigerators.
No. 803 Schwartz & Co., Milwaukee..... 3 00.

CLASS 48.— *Silver, Brittannia and Crockery Ware.*

Best collection glass, china and earthenware.
No. 815 W. K. Stafford, Milwaukee..... Diploma

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CLASS 49—.*Surgical, Dental, Mathematical and Philosophical Instruments and Apparatus.*

Best display dentistry.

No. 213 W. A. Dart, Milwaukee..... Diploma

Best skill in dental work.

No. 213 W. A. Dart, Milwaukee..... Diploma

Best display of mathematical and philosophical instruments and apparatus, by manufacturer or agent.

No. 527 Julius Lando, Milwaukee..... Diploma

CLASSL 51.— *Carriages, Wagon Work, Etc.*

Best two seated open carriage.

No.	571	Milwaukee Buggy Co., Milwaukee	$5 00

Best two seated top carriage.

No.	492	Henny Buggy Co., Freeport, Ill.....	10 00
No.	492	Henny Buggy Co., Freeport, Ill	5 00

Best single top buggy.

No.	492	Henny Buggy Co., Freeport, Ill.....	5 00
No.	481	Kalamazoo Wagon Co., Kalamazoo, Mich	3 00

Best open buggy.

No.	492	Henny Buggy Co., Freeport, Ill.....	5 00
No.	561	Michigan Buggy Co., Oshkosh	3 00

Best phaeton.

No.	492	Henny Buggy Co., Freeport, Ill.....	5 00
No.	17	Abbott Buggie Co., Chicago, Ill.....	3 60

Best double farm sleigh.

No.	833	B. F. & H. L. Sweet, Fond du Lac	5 00

Best single seated cutter.

No.	481	Kalamaz ooWagon Co, Kalamazoo	5 00
	492	Henny Buggy Co., Freeport, Ill.....	3 00

Best common farm wagon.

No.	244	John Esch & Son, Milwaukee.....	5 00
	387	Chas. J. Hirsch, Milwaukee.....	3 00

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Best fancy lumber wagon.

No.	170	Geo. C. Cribb, Milwaukee	$5 00

Best display srotting sulkies.

No.	9	Chas. Abresch, Milwaukee	Diploma

Best two seated surry wagon.

No.	492	Henny Buggy Co., Freeport, Ill	5 00
	17	Abbott Buggy Co, Chicago, Ill	3 00

Best platform spring wagon.

No.	511	Milwaukee Buggy Co., Milwaukee	5 00

Best combined spring wagon.

No.	571	Milwaukee Buggy Co., Milwaukee	5 00
	170	Geo. C. Cribb, Milwaukee	3 50

Best brewers' wagon.

No.	9	Chas. Abresch, Milwaukee	Diploma

Best stick box wagon.

No.	481	Kalamazoo Wagon Co., Kalamazoo	3 00

Best road cart.

No.	84	Brewster Carriage Co., Milwaukee	5 00
	487	Keystone Mfg. Co., Sterling, Ill	3 00

Best delivery wagon.

No.	571	Milwaukee Buggy Co., Milwaukee	5 00
No.	170	Geo. C. Cribb. Milwaukee	3 00

Best heavy logging sleigh.

No.	833	B. F. & H. L. Sweet, Fond du Lac	5 00

CLASS 52.— *Cabinetware, Cooperage, Willow Ware, House Building Material, Etc.*

Best parlor set.

No.	565	Mathews & Co., Milwaukee	$10 00
	205	G. W. Dewey	5 00

Best chamber set.

No.	565	Mathews & Co., Milwaukee	10 00
	205	G. W. Dewey, Milwaukee	3 00

Best extension table.

No.	565	Mathews & Co., Milwaukee	3 00

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Best center table.

No. 921	J. B. Van Camp, Hingham	$3 00
565	Mathews & Co,, Milwaukee	2 00

Best book case.

No. 565	Mathews & Co., Milwaukee	3 00

Best lady's work stand.

No. 565	Mathews & Co., Milwaukee	3 00

Best writing table or desk.

No. 565	Mathews & Co., Milwaukee	3 00
205	G. W. Dewey, Milwaukee	2 50

Best spring bed bottom.

No. 565	Mathews & Co., Milwaukee	3 00

Best 6 dining chairs.

No. 205	G. W. Dewey, Milwaukee	3 00

Best reclining chair.

No. 565	Mathews & Co., Milwaukee	5 00

Best butter firkins, oak.

No. 163	Creamery Pckg Co., Chicago	Diploma

Best display of cooperage and willow ware by manufacturer.

No. 163	Creamery Pckg Co., Chicago	3 00

HARNESS, ETC.

Best carriage harness, double.

No. 806	Thos. C. Smith & Co., Milwaukee	5 00

Best wagon harness, double.

No. 806	Thos. C. Smith & Co., Milwaukee	3 00

Best single harness.

No. 806	Thos. C. Smith & Co., Milwaukee	3 00

Best gent's saddle.

No. 806	Thos. C. Smith & Co., Milwaukee	3 00

Best lady's saddle.

No. 806	Thos. C. Smith & Co., Milwaukee	3 00

Best 4 horse collars.

No. 806	Thos. C. Smith & Co., Milwaukee	2 00

Best exhibition of shoes manufactured in the state, one pair each.

No. 779	A. W. Rich & Co., Milwaukee	10 00

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CLASS 55.— *Textile Fabrics, Clothing, etc.*

Best exhibition carpets and rugs.

No.	341	Gimbel Bros., Milwaukee	$10 00

Best exhibition woolen fabrics manufactured in the state and exhibited by the manufacturer.

No.	1007	A. Weingandt, Milwaukee	10 00

Best suit men's clothing.

No.	165	Chicago Bell, Milwaukee	5 00
	81	Browning, King & C., Milwaukee	3 00

Best suit boy's clothing.

No.	165	Chicago Bell, Milwaukee	3 00
	81	Browning, King & Co., Milwaukee	2 00

Best exhibition gents' hats and caps.

No.	165	Chicago Bell, Milwaukee	

Best exhibition of furs and fur goods.

No.	242	Empire Fur Co., Milwaukee	10 00
	341	Gimbel Bros., Milwaukee	5 00

Best six buckskin gloves.

No.	242	Empire Fur Co., Milwaukee	5 00

Best six buckskin mittens.

No.	242	Empire Fur Co., Milwaukee	5 00

DEPARTMENT K—FINE ARTS.

CLASS 57.—*Sewing Machine Work.*

Best display of sewing machine work.

No.	1009	Wheeler & Wilson Mfg. Co., Milwaukee	$10 00
	605	New Home Sewing Machine Co., Milwaukee	5 00

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CLASS 58.— *Works of Art.*

Best collection oil paintings, not less than 25.

No.	778	Roebel, Reinhardt & Co., Milwaukee	$30 00
	687	Mrs. O. Pratt, Spring Prairie	20 00

Best collection oil paintings, not less than 10.

No.	687	Mrs. O. Pratt, Spring Prairie	15 00
	894	Mrs. Floy Miner Trapp, Chicago	10 00

Best oil painting.

No.	778	Roebel, Reinhardt & Co., Milwaukee	10 00

Best collection paintings in water colors, not less than 25.

No.	894	Mrs. Floy Miner Trapp, Chicago	15 00

Best painting in water colors.

No.	778	Roebel, Reinhardt & Co., Milwaukee	5 00

Best collection of steel engravings, not less than 25.

No.	778	Roebel, Reinhardt & Co., Milwaukee	15 00

Best steel engraving.

No.	778	Roebel, Reinhardt & Co., Milwaukee	5 00

Best collection etchings, not less than 25.

No.	778	Roebel, Reinhardt & Co., Milwaukee	15 00

Best etching.

No.	778	Roebel, Reinhardt & Co., Milwaukee	5 00

CLASS 59.— *Artists' Class.*

Best portrait in oil.

No.	243	Frank Enders, Milwaukee	$12 00
	96	Mary Bunn, Madison	8 00

Best original landscape in oil.

No.	243	Frank Enders, Milwaukee	12 00
	169	Mrs. Levi Crouch, Baraboo	8 00

Best landscape in oil.

No.	243	Frank Enders, Milwaukee	8 00
	167	Mrs. C. L. Clark, Janesville	5 00

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Best painting of cow or bull from life.

No.	687	Mrs. O. Pratt, Spring Prairie	$10 00

Best painting still life, in oil.

No.	96	Mary Bunn, Madison	10 00

Best marine painting in oil.

No.	169	Mrs. Levi Crouch, Baraboo	12 00
	687	Mrs. O. Pratt, Spring Prairie	8 00

Best game painting in oil.

No.	607	Mrs. O. Pratt, Spring Prairie	5 00
	169	Mrs. Levi Crouch, Baraboo	3 60

Best fruit piece in oil.

No.	167	Mrs. C. L. Clark, Janesville	5 00

Best plaque painting in oil.

No.	484	Mrs. J. Kavanaugh, Milwaukee	5 00

Best panel painting in oil.

No.	687	Mrs. O. Pratt, Spring Prairie	5 00

Best flower painting in oil.

No.	96	Mary Bunn, Madison	5 00

Best figure painting in oil.

No.	96	Mary Bunn, Madison	5 00

Best collection of oil paintings by Wisconsin artists, not less than 15 pictures.

No.	96	Mary Bunn, Madison	25 00
	100	Mrs. L. M. Buell, Beloit	15 00

Best landscape in water colors.

No.	243	Frank Enders, Milwaukeee	5 00

Best marine painting in water colors.

No.	484	Mrs. J. Kavanaugh, Milwaukee	5 00

Best figure painting in water colors.

No.	243	Frank Enders, Milwaukee	3 00

Best painting still life in water colors.

No.	484	Mrs. J. Kavanaugh, Milwaukee	3 00

Best specimen bird painting in water colors.

No.	484	Mrs. J. Kavanaugh, Milwaukee	3 00

Best portrait in water colors.

No.	484	Mrs. J. Kavanaugh, Milwaukee	3 00

Best panel painting in water colors.

No.	484	Mrs. J. Kavanaugh, Milwaukee	3 00

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Best flower painting in water colors.

No.	484	Mrs. J. Kavanaugh, Milwaukee	$3 00

Best collection paintings in water colors by Wisconsin artists.

No.	484	Mrs. J. Kavanaugh, Milwaukee	15 00
	243	Frank Enders, Milwaukee	5 00

Best fruit in pastel from nature.

No.	100	Mrs. L. M. Buell, Beloit	3 00

Best flower in pastel from nature.

No.	601	Miss Ida J. Neilson, Good Hope	3 00

Best single piece china painting.

No.	894	Mrs. Floy Miner Trapp, Chicago	3 00

Best collection china paintings.

No.	894	Mrs. Floy Miner Trapp, Chicago	5 00

Best landscape photograph.

No.	243	Frank Enders, Milwaukee	2 00

Best crayon drawing by exhibitor.

No.	484	Mrs. J. Kavanaugh, Milwaukee	5 00

Crayon from photograph.

No.	683	Jay S. Palmer, Palmer, Baraboo	5 00

Best pencil drawing.

No.	243	Frank Enders, Milwaukee	2 00

Best specimen of charcoal or free hand drawing (work of pupil).

No.	895	Miss Lou Taylor, Wauwatosa	3 00

Best specimen of etching by etcher.

No.	243	Frank Enders, Milwaukee	5 00

CLASS 60.— *Natural History.*

Best collection of the insects of Wisconsin.

No.	776	Mrs. Herman Rolhart, Milwaukee	Diploma

Best display of coins.

No.	774	Frances Renk, Milwaukee	Diploma

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WOMAN'S WORK.

CLASS 61. — *Needle Work, Fancy Work and Decorative Art.*

Best sample plain sewing, embracing the different stitches used in household sewing and repairing, hand work.

No. 268 Mrs. Helen Hastings, Kenosha..... $2 00

Best set of embroidered underclothes, hand made.

No. 83 Mrs. L. R. Burgess, Madison..... 2 00

Best set of embroidered underclothes, machine made.

No. 325 Mrs. C. F. Glass, Janesville..... 2 00

Best specimen hand braid work.

No. 82 Genevieve Bartels, Milwaukee..... 1 00

Best specimen pillow shams.

No. 89 Annie Birket, Milwaukee..... 1 00

Best specimen table scarf.

No. 808 May Stimble, La Crosse..... 2 00

Best table spread.

No. 328 Mrs. Geo. Guenther, Milwaukee..... 2 00

Best wall banner.

No. 773 Bertha Renk, Milwaukee..... 2 00

Best mantle lambrequin.

No. 325 Mrs. C. F. Glass, Janesville..... 2 00

Best window lambrequin.

No. 325 Mrs. C. F. Glass, Janesville..... 2 00

Best infant's robe and skirt.

No. 174 Mrs. A. G. Coe, Milwaukee..... 2 00

Best exhibition any kind lace, work of exhibitor.

No. 174 Mrs. A. G. Coe, Milwaukee..... 3 00

Best specimen etching on silk, satin or linen.

No. 167 Mrs. C. L. Clark, Janesville..... 2 00

Best picture embroidery.

No. 774 Frances Renk, Milwaukee..... 2 00

Best Kensington embroidery.

No. 325 Mrs. C. F. Glass, Janesville..... 2 00

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Best chenille embroidery.
No. 808 May Stimble, La Crosse..... $2 00

Best silk embroidered child's dress, hand made.
No. 325 Mrs. C. F. Glass, Janesville..... 2 00

Best arasene embroidery.
No. 325 Mrs. C. F. Glass, Janesville..... 2 00

Best needle work or floss embroidery.
No. 174 Mrs. A. G. Coe, Milwaukee..... 2 00

Best silk embroidery, hand made.
No. 805 Miss Winnie Stevens, Milwaukee..... 2 00

Best specimen applique embroidery.
No. 808 May Stimble, La Crosse..... 2 00

Best toilet cushion.
No. 805 Miss Winnie Stevens, Milwaukee..... 2 00

Best sofa cushion.
No. 82 Genevieve Bartels, Milwaukee..... 2 00

Best chair cover.
No. 808 May Stimble, La Crosse..... 2 00

Best ottoman cover.
No. 82 Genevieve Bartels, Milwaukee..... 2 00

Best fancy knitting work.
No. 373 D. Huntley, Appleton..... 2 00

Best cotton tidy.
No. 773 Bertha Renk, Milwaukee..... 1 00

Best worsted tidy.
No. 2 Mrs, Lizzie Axon, Lodi..... 2 00

Best tidy, any other kind.
No. 774 Frances Renk, Milwaukee..... 1 00

Best silk mittens.
No. 92 Mrs. A. C. Bates, Janesville..... 2 00

Best crochetted ladies' skirt.
No. 821 Mrs. E. Shea, Milwaukee..... 3 00

Best hand knit ladies' under vest.
No. 83 Mrs. L. R. Burgess, Madison..... 3 00

Best collection of crochet work.
No. 174 Mrs. A. G. Coe, Milwaukee..... 2 00

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Best crochetted or knitted slippers or shoes.
No. 83 Mrs. L R. Burgess, Madison..... $2 00

Best fire screen.
No. 484 Mrs. J. Kavanaugh, Milwaukee..... 3 00

Best set of Doylies.
No. 82 Genevieve Bartels, Milwaukee..... 2 00

Best hand knit ladies' skirt.
No. 329 Mrs. Susan Grab, Milwaukee 3 00

Best decorated chair.
No. 82 Genevieve Bartels, Milwaukee..... ..... 3 00

Best embroidery in crewel.
No. 82 Genevieve Bartels, Milwaukee..... ..... 2 00

Best embroidery in form work.
No. 325 Mrs. C. F. Glass, Janesville..... 3 00

Best tapestry painting.
No. 484 Mrs. J. Kavanaugh, Milwaukee..... 5 00

Best hand decorated table.
No. 774 Frances Renk, Milwaukee..... 2 00

Best French embroidery.
No. 805 Miss Minnie Stevens, Milwaukee..... 2 00

Best specimens of drawn work.
No. 174 Mrs. A. G. Coe, Milwaukee..... 3 00

Best specimen darning in fancy stitches.
No. 82 Genevieve Bartels, Milwaukee..... 2 00

Best toilet set.
No. 805 Miss Winnie Stevens, Milwaukee..... 2 00

Best Afghan.
No. 1020 Mrs. Helen Wheeler, Milwaukee..... 3 00

Best Arasene embroidery.
No. 325 Mrs. C. F. Glass, Janesville..... .... 2 00

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CLASS 62.— *Work of Boys und Girls Under 15 years of age.*

Best patch work quilt.

No.	441	Marie J. Joyce, Milwaukee	$2 00

Best sample of knitting.

No.	368	Mrs. Helen Hastings, Kenosha	2 00

CLASS 63.— *Domestic Manufactures.*

Professional sewing machine work and articles having previously taken premiums excluded from this class.

Best rug of any material.

No.	809	Mrs. A. D. Smith, Burlington	$4 00
	382	Mrs. Mary Harrison, Mukwanago	2 00

Best drawn rug.

No.	382	Mrs. Mary Harrison, Mukwanago	2 00

Best braided rug.

No.	83	Mrs. L. R. Burgess, Madison	2 00

Best 10 yards rag carpet.

No.	303	Mrs. Corinne Holverson, Beloit	4 00

Best woolen stockings.

No.	809	Mrs. A. D. Smith, Burlington	2 00

Best woolen socks.

No.	382	Mrs. Mary Harrison, Mukwanago	2 00

Best white quilt, quilted, hand work.

No.	83	Mrs. L. R. Burgess, Madison	4 00

Best silk quilt, quilted.

No.	325	Mrs. C. F. Glass, Janesville	4 00
	679		2 00

Best log cabin quilt (not silk) quilted.

No.	809	Mrs. A. D. Smith, Burlington	4 00

Best patch work quilt, quilted.

No.	767	Julia Rabb, Mazomanie	4 00

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Best knit counterpane.

No.	328	Mrs. Geo. Gunther, Milwaukee	4 00
	329	Mrs. Susan Grab, Milwaukee	2 00

Best window or door curtain.

No.	374	Mrs. Herr, Milwaukee	2 00

Best exhibition of ladies' dress made by professional dressmaker.

No.	325	Mrs. C. F. Glass, Janesville	4 00

Best specimen of darning.

No.	368	Mrs. Helen Hastings, Kenosha	2 00

Best specimen patched mending.

No.	91	Mrs. A. C. Bates, Janesville	2 00

CLASS 64.— *Household products.*

Best loaf graham bread.

No.	442	Miss M. Rilla Johnson, Wauwatosa	$3 00

White bread, hop yeast.

No.	339	Mrs. E. J. Grover, Wauwatosa	3 00
	442	Miss M. Rilla Johnson, Wauwatosa	2 00

Indian bread.

No.	769	Mrs. G. Rood, Stevens Point	3 00
	295	Mrs. E. W. Fisher, Janesville	2 00

Best sponge cake.

No.	769	Mrs. G. Rood, Stevens Point	2 00
	19	Mrs. John Amberg, Milwaukee	1 00

Chocolate gold cake.

No.	19	Mrs. John Amberg, Milwaukee	2 00
	245	Mrs. E. S. Evans, Fond du Lac	1 00

Fruit cake.

No.	245	Mrs. E. S. Evans, Fond du Lac	2 00
	295	Mrs. E. W. Fisher, Janesville	1 00

Doughnuts.

No.	19	Mrs. John Amberg, Milwaukee	2 00
	442	Miss M. Rilla Johnson, Wauwatosa	1 00

English walnut cream cake.

No.	19	Mrs. John Amberg, Milwaukee	2 00
	295	Mrs. E. W. Fisher, Janesville	1 00

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Almond cream cake.

No.	19	Mrs. John Amberg, Milwaukee	$2 00
	295	Mrs. E. W. Fisher, Jahesville	1 00

Ice cream cake.

No.	442	Miss M. Rilla Johnson, Wauwatosa	2 00
	19	Mrs. John Amberg, Milwaukee	1 00

Chocolate caramel cake.

No.	19	Mrs. John Amberg, Milwaukee	2 00
	245	Mrs. E. S. Evans, Fond du Lac	1 00

Chocolate cream cake.

No.	19	Mrs. John Amberg, Milwaukee	2 00
	245	Mrs. E. S. Evans, Fond du Lac	1 00

Largest exhibition of articles of above sort.

No.	295	Mrs. E. W. Fisher, Janesville	5 00

SEALED AND PRESERVED FRUITS AND PICKLES.

Best canned peaches.

No.	291	Mrs. C. T. Fisher, Wauwatosa	$2 00

Best canned plums.

No.	291	Mrs. C. T. Fisher, Wauwatosa	2 00

Best canned currants.

No.	291	Mrs. C. T. Fisher, Wauwatosa	2 00

Best canned tomatoes.

No.	442	Miss M. Rilla Johnson, Wauwatosa	2 00

Best canned gooseberries.

No.	291	Mrs. C. T. Fisher, Wauwatosa	2 00

Best canned raspberries.

No.	291	Mrs. C. T. Fisher, Wauwatosa	2 00

Best canned strawberries.

No.	19	Mrs. John Amberg, Milwaukee	2 00

Best canned grapes.

No.	291	Mrs. C. T. Fisher, Wauwatosa	2 00

Best canned blackberries.

No.	291	Mrs. C. T. Fisher, Wauwatosa	2 00

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Best canned cherries.
No. 882 Mrs. H. G. Tuttle, Milwaukee..... $2 00

Best canned pears.
No. 19 Mrs. John Amberg, Milwaukee..... 2 00

Best canned Hyslop or Transcendent crabs.
No. 767 Julia Rabb, Mazomanie..... 2 00

Best plum jelly.
No. 295 Mrs. E. W. Fisher, Janesville..... 2 00

Best currant jelly.
No. 339 Mrs. E. J. Grover, Wauwatosa..... 2 00

Best red raspberry jelly.
No. 339 Mrs. E. J. Grover, Wauwatosa..... 2 00

Best crab apple jelly.
No. 295 Mrs. E. W. Fisher. Janesville..... 2 00

Best raspberry jam.
No. 442 Miss M. Rilla Johnson, Wauwatosa..... 2 00

Best blackberry jam.
No. 442 Miss M. Rilla Johnson, Wauwatosa..... 2 00

Best sweet pickled peaches.
No. 339 Mrs. E. J. Grover, Wauwatosa..... 2 00

Best sweet pickled apples.
No. 291 Mrs. C. T. Fisher, Wauwatosa..... 2 00

Best pickled pears.
No. 339 Mrs. E. J. Grover, Wauwatosa..... 2 00

Best Chili sauce.
No. 882 Mrs. H. G. Tuttle, Milwaukee..... 2 00

Best tomato catsup.
No. 291 Mrs. C. T. Fisher, Wauwatosa..... 2 00

Best sour pickles.
No. 291 Mrs. C. T. Fisher, Wauwatosa..... 2 00

Best cauliflower.
No. 221 Mrs. C. T. Fisher, Wauwatosa..... 2 00

Best onions.
No. 291 Mrs. C. T. Fisher, Wauwatosa..... 2 00

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Best mixed pickles.

No.	281	Mrs. C. T. Fisher, Wauwatosa	$2 00

Best and largest exhibition fruits, jellies. jams and pickles in glass jars.

No.	291	Mrs. C. T. Fisher, Wauwatosa	5 00

CLASS 65.— *Works of Art.*

Best landscape in oil.

No.	484	Mrs. J. Kavanaugh, Milwaukee	$8 00
	169	Mrs. Levi Crouch, Baraboo	5 00

Game painting in oil.

No.	687	Mrs. O. Pratt, Spring Prairie	5 00

Fruit painting in oil.

No.	687	Mrs. O. Pratt, Spring Prairie	5 00

Flower painting in oil.

No.	484	Mrs. J. Kavanaugh, Milwaukee	5 00

Painting still life in oil.

No.	687	Mrs. O. Pratt, Spring Prairie	5 00

Best panel painting in oil.

No.	484	Mrs. J. Kavanaugh, Milwaukee	5 00

Best plaque painting in oil.

No.	484	Mrs. J. Kavanaugh, Milwaukee	3 00

Best figure painting in oil.

No.	484	Mrs. J. Kavanaugh, Milwaukee	5 00

Best portrait in oil.

No.	100	Mrs. L. M. Buell, Beloit	5 00

Best Kensington painting in oil.

No.	174	Mrs. A. G. Coe, Milwaukee	3 00

Best velvet painting in oil.

No.	894	Mrs. Floy Miner Trapp, Chicago	3 00

Best figure painting in water colors.

No.	687	Mrs. O. Pratt, Spring Prairie	3 00

Best bird painting in water colors.

No.	484	Mrs. J. Kavanaugh, Milwaukee	3 00

Best still life painting in water colors.

No.	484	Mrs. J. Kavanaugh, Milwaukee	3 00

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		Best portrait painting in water colors.	
No.	894	Mrs. Floy Miner Trapp, Chicago	$5 00
		Plaque painting in water colors.	
No.	894	Mrs. Floy Miner Trapp, Chicago	3 00
		Flower painting in water colors.	
No.	484	Mrs. J. Kavanaugh, Milwaukee	3 00
		Water color painting on silk or satin.	
No.	894	Mrs. Floy Miner Trapp, Chicago	3 00
		Portrait in crayon.	
No.	174	Mrs. A. G. Coe, Milwaukee	5 00
		Portrait in pastel.	
No.	601	Miss Ida J. Neilson, Good Hope	3 00
		Flowers in pastel from nature.	
No.	601	Miss Ida J. Neilson, Good Hope	3 00
		China painting, single piece.	
No.	484	Mrs. J. Kavanaugh, Milwaukee	3 00
		Collection china painting.	
No.	894	Mrs. Floy Miner Trapp, Chicago	5 00
		Crayon drawing by exhibitor.	
No.	601	Miss Ida J. Neilson, Good Hope	5 00
		Best pencil drawing by exhibitor.	
No.	601	Miss Ida J. Neilson, Good Hope	2 00
		Best specimen of charcoal or free hand drawing.	
	601	Miss Ida J. Neilson, Good Hope	3 00
		Best repousse or hammered brass work.	
No.	325	Mrs. C. F. Glass, Janesville	3 00
		Best incised wood carving.	
No.	769	Mrs. G. Rood, Stevens Point	3 00
		Best specimen scroll sawing.	
No.	174	Mrs. A. G. Coe, Milwaukee	3 00

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REPORTS OF SUPERINTENDENTS.

REPORT OF DEPARTMENT A—HORSES.

The exhibit of horses at the state fair of 1889 was one of the largest and most complete in the history of the society. All stalls were occupied by actual exhibitors. The draft and roadster classes were notably well filled.

Competition was sharp, and the work of judging necessarily difficult and embarrassing. When the best specimens of breeds are brought together by prominent breeders and importers, and pitted against each other in the show ring to expect that any judge or arrangement of judges shall be able to give complete satisfaction in awarding premiums is presuming much on the forbearance and good nature of exhibitors.

Several cases of dissatisfaction with awards were announced and an unusual number of protests filed. I do not think that this can be construed as a reflection upon the character and judgment of judges, but the result of unusually close competition, and the natural belief that horsemen indulge in the superiority of their own animals.

That the several gentlemen who acted as judges were well qualified for their work, and labored to do full and exact justice, I do not doubt. Judges of the several classes were:

Percherons—T. B. Livingston, Midway, Wis.

Clydesdales and Shires—F. C. Warren, Fox Lake, Wis.

Coachers—Dr. W. M. Ormund, Minnesota.

Breeders' Rings, draft classes—Peter Wakum, Madison.

Grade drafts—Griffith Richards and David Bonner.

Roadsters—L. Downs, Allen's Grove, Wis.

Saddle horses—Dr. W. M. Ormund, Minnesota.

In arranging premium list for next year, I would recommend that the grade draft class be enlarged, and that grade

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coach and grade roadster classes be formed, animals shown to be the progeny of full-blooded or standard-bred sires. Also stallion breeding rings, grade colts only being shown.

These recommendations are made for the purpose of inducing farmers and others raising graded horses to make an exhibit of their stock.

Respectfully submitted,

JOHN M. TRUE,
Superintendent.

REPORT OF DEPARTMENT B—CATTLE.

To the Executive Board of the Wisconsin State Agricultural Society:

GENTLEMEN—The superintendent of department "B," cattle, for the exhibition held September 16–19, 1889, at the fair grounds at Milwaukee, respectfully, reports as follows, to wit:

There were 247 head of pure-bred cattle on exhibition; all good animals, many of them superb and a credit to their owners. Of these Leslie & Burwell, of Cottage Grove, showed thirteen Polled Angus, that it is doubtful if they can be excelled in the United States. The Devons attracted much attention, but modestly accepted their laurels and contentedly chewed their cuds. W. H. Jacobs, of Madison, showed twenty-three Short-horns, most of them showing high breeding, fine quality and skilful care and feeding. Casper M. Sanger, of Waukesha, also showed eleven head of Short-horns, and gave Mr. Jacobs a close race for grand sweepstakes. This herd, likewise that of George Harding, of Waukesha, who exhibited eleven head of Short-horns, made a close contest for many of the class prizes with Mr. Jacobs.

F. W. Tratt, of Whitewater, who exhibited fifteen Guernseys, had everything his own way, as there was no competition in this class, nevertheless, his cattle were hard to beat, and with competition he might have fared as well. There were forty-eight Holsteins shown by Messrs. J. W.

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Morse & Sons, of Verona; E. Randall, of Hustisford; Rust Bros., of North Greenfield; Gillett & Son, of Rosendale, and J. E. Hickey, of Whitewater, all prime cattle in their class. There were but two herds of Devons shown by the veteran breeders, E. L. Rawson, of Oak Grove, and J. W. Morse & Sons, of Verona, and a more uniform sleek looking lot of cattle than these gentlemen showed is hard to find.

Messrs. C. Cupples, of North Greenfield, and C. N. Griffith, of Whitewater, were the principal exhibitors of Jerseys. While Mr. Griffith's cattle showed high breeding, and in many cases took first prizes, it must be said that Mr. Cupples' cattle are among the largest cattle of the breed that can be found in this country, and in the opinion of the writer show equal dairy quality with the smaller Jerseys that are at present so fashionable among breeders of this kind of stock. Cosgrove Cattle company of Le Sueur, Minn., contested with J. J. Williams, of Hustisford, of our own state, for the prizes in the Hereford class, and it must be said that the white faces were an attraction to the fair.

A. W. Martin, of Richland City, showed twelve head of Red Polled cattle, and took most of the prizes in this class.

Altogether the show of cattle at this fair (for the number exhibited) was the best ever had in the state. While the number was not large, the exhibition was equally good on account of the extra good quality of the stock. Of the whole 247 head of pure-bred cattle representing all the principal breeds, Wisconsin furnished all but seventeen head, thus showing that we are not obliged to go outside of our own state to make a fine display in this department. Throughout the whole week the utmost harmony and good feeling prevailed, and while all could not win first, and those that took second, or even nothing, quietly aquiesced in the decision of the judges.

It is the duty, and generally the best policy for an exhibitor, to be a gentleman at a fair, and in this regard the exhibitors in this department came up to the highest standard. The single judge system was maintained all through except in sweepstakes, and appears to be the best and most satis-

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factory if the proper persons can be obtained. No three men are better than one unexceptional man, and one poor man is just as apt to give a correct judgment as three of the same character. With three they may diverge, but with one there is no mistake, he must face the matter and bear all the blame if he makes a mistake, therefore he is apt to be more careful to use his best judgment. Your superintendent in this report has no suggestions to make, but will reserve them, if any, for general application in all departments at the regular meeting of the board.

Respectfully yours,
ALEX. A. ARNOLD,
Superintendent.

REPORT OF DEPARTMENT C—SHEEP.

Mr. President, Gentlemen of the Board: It is with pleasure that I am able to report progress in the sheep department. The display at the fair of 1889, though not numerically large, the quality of the exhibit showed a marked improvement over the show of 1888. All the breeds were well represented: Of Merinoes there were sixty-seven; Oxford Downs, forty; Cotswolds, twenty-seven; Southdowns, forty-five; Shropshires, seventy, the pens of the department were all filled. A late arrival of about sixty Shropshires had to be quartered among the cattle. The work of the department was, I think, satisfactory to exhibitors. The one judge system gave general satisfaction. I would recommend the adoption of the list premium, with the rules and regulations of last year, for the fair of 1890.

Respectfully,
C. M. CLARK,
Superintendent of Sheep Department.

DEPARTMENT D—SWINE.

The exhibits in the swine department of the state fair for the year 1889 was perhaps the largest in the history of the society. The pens were all filled, the exhibitors cheer-

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fully doubling up wherever it was practicable, and yet there was not room for all. In view of the fact the society will have to have other grounds before many years, it was decided not to build any more pens, and some of the cattle stalls were temporalily used as such. The system of expert judging seems to give general satisfaction, as we heard no individual complaint. There is a protest against showing Suffolks against Essexs, Cheshire and small Yorkshire, which is more a question of enlarging the premium list and will probably be decided at this meeting.

By mentioning the name, the address and breeds of the exhibitor in the superintendent's report, it may stimulate them to still greater exertions at our future fairs.

Respectfully submitted.

EPH BEAUMONT,
Superintendent Swine Department.

DEPARTMENT E — POULTRY.

To the Officers and Members of the Executive Committee of the State Agricultural Society:

GENTLEMEN — Department E for the year 1889 shows a marked improvement over former years, both in numbers and quality of exhibits, the number being about 500, the number of exhibits in this department having increased over 150 per cent. during the last three years, showing the necessity of more room to properly exhibit the entries in this department, and I would recommend that additional room be added to the building.

I have compiled a new premium list for department E, adding some new varieties and eliminating some of the older and more common varieties, such changes being taken from the *American Standard*, and which will not increase the premium list but probably decrease it for 1890.

I ask that a committee be appointed to look over the proposed new list with the superintendent, and report.

Thanking you, gentlemen, for favors and assistance heretofore, I remain yours respectfully,

WILLIAM WILSON,
Superintendent Department E.

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DEPARTMENT F — AGRICULTURE.

To the Executive Board of the State Agricultural Society:

GENTLEMEN — I trust I shall not be accused of using a hackneyed phrase when I say it is doubtful if a larger or more creditable display was ever made in the department of agriculture than that of last autumn. Such at least seemed to be consensus of opinion among those long familiar with these annual exhibits.

The regularly chosen superintendent of this department was not present during the fair owing to temporary illness. I am sure, however, that the very great success of the exhibit was largely due to his labors, prior to the fair, and as well to his popular management of the department in past years, Superintendent Fisher's inability to be present was the source of very great regret to all — the officers of the society and the exhibitors as well — but more so to myself, who, perforce felt the natural embarrassments that spring from being called to fill the place of one so experienced and efficient.

Undoubtedly the bountiful harvest of the year did much toward making the exhibits so full in all classes. The premiums, however, offered by the society appear to be adequate to insure creditable displays and with a fairly favorable season, I do not expect any abatement of interest among the patrons of this department the ensuing year. I therefore have not seen fit to propose any changes in the premium list.

Some modifications of the interior of Agricultural Hall could be made, at trifling expense, thereby increasing its capacity now taxed to its utmost. The arrangement made for the accommodation of Mr. Harrington's display of 700 varieties of potatoes could be extended along nearly the whole south side of the building to the very great advantage and accommodation of exhibitors, judges and spectators.

The dairy products were under the efficient management of Mr. Loomis, assistant dairy and food commissioner. The exhibition in this line was not large, but embraced an

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unusual number of choice products. The large display of butter-working machinery and dairy utensils, made by Messrs. Cornish, Curtis & Green, of Fort Atkinson, Wis., proved an attractive and popular feature. The fact that these goods were the products of a Wisconsin manufacturing establishment and admittedly one of the largest, I think the largest, in the world, awakened especial interest in their display.

The products of the apiary were not numerous, yet the display was in every way creditable.

In conclusion I desire to express my cordial appreciation of the faithful and valuable services rendered by my assistant, Mr. E. E. Williams. The amicable relations maintained throughout between exhibitors and officers were largely due to his considerate deportment and his sense of propriety.

The judges who made the award on the field products were: Messrs. T. J. Van Matre, of LaFayette county; H. B. Drake and A. F. Noyes, of Dodge county. On garden and vegetable products: Messrs. John Dey, of Outagamie county and Henry Knight, of Pepin county. Public acknowledgement is due these several gentlemen for the efficient services performed by them in the society's behalf.

Respectfully submitted,

A. C. PARKINSON,
Superintendent.

DEPARTMENT G — FRUITS AND FLOWERS.

To the Executive Board of the Wisconsin State Agricultural Society:

GENTLEMEN — As superintendent of department G, fruits and flowers, I submit the following report:

Early last August I had published and sent out among our fruit growers, horticulturists and florists a circular letter inviting them to bring of their choicest specimens sufficient for themselves and the state of Wisconsin. Nature had dealt kindly with them — let the world know it. The result was 778 entries in my department, and your society paid out in premiums therefore $676. And the discriminating pub-

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lic said: "One of the best exhibits ever held in our state." "A great attraction to our fair." The season was backward and too cold for the best exhibit of grapes, and in this one respect our exhibit was not what we hoped for earlier in the season; but yet were agreeably surprised at the fine display made by Mr. Fox and others. Our horticulturists and fruit growers have worked intelligently and persistently, and there can no longer be an existing doubt as to the planting of orchards in Wisconsin — even for commercial purposes. To make such a display as we had in this department involves a large amount of time and expense on the part of exhibitors, and they consider the small amounts offered in premiums poorly inadequate for the outlay. Especially is this so in the department of plants and flowers which lends so much to the attractiveness of our fair, and when we consider the value of such a collection as was exhibited by Mr. Whitnall, Currie Brothers and Mr. Ringrose, with the great risk and exposure incident to their removal from green houses, we should at least offer better facilities and better protection or larger premiums.

Your board last year placed department G more immediately under the charge of the Wisconsin State Horticultural society, and President Smith has appointed a committee to revise the premium list and report at this meeting of your body. That committee will no doubt advise an increase of premiums in some of the divisions, to the consideration of which I bespeak your concurrence.

All of which is respectfully submitted,

B. S. HOXIE,
Superintendent.

MACHINERY DEPARTMENT.

To the President and Executive Board of the State Agricultural Society:

GENTLEMEN — The exhibits in the machinery department of our last fair were much larger than ever before, number of entries 716, requiring the platting of two additional blocks.

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Parties desire to put up a building on the south end of the west shaft opposite the Milwaukee building, I do not recommend the arrangement.

Should there be a building built in that location I advise the society to build it. I promised to meet the party here some time during the meeting of the executive board, but I am not able to be present to-night on account of the severe illness of my wife, but hope to meet you at a later meeting of the board.

A. W. VAUGHAN,
Superintendent Machinery Department.

DEPARTMENT I—MANUFACTURES.

To the Executive Board of the State Agricultural Department:

GENTLEMEN — The exhibit in manufacturers' department at the fair of 1889 was fully equal, and in some respects better perhaps than any former exhibit. The merchants of Milwaukee, noted for their thrift and enterprise, made an attractive display in their line, and the manufacturers throughout the state were on hand with their new inventions and improvements, realizing the grand opportunity the occasion affords of placing their wares before the public. As it now seems to be a settled fact that from two to four large tents are necessary to afford room for exhibitors who cannot be accommodated in the building, and as experience has proven that it is both inconvenient and expensive to hire tents when needed, I would suggest the propriety of the board purchasing three suitable tents for the use of the department, and at the proper time I will suggest a few changes in the premium list to keep in line with the new style of manufacturing, not increasing the cash premiums of the present list.

Respectfully submitted,
H. D. HITT,
Superintendent Manufacturers Department.

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DEPARTMENT K—FINE ARTS.

In the fine art department there was one exhibit of pianos, three of sewing machines and sewing machine work, and twenty collections of paintings and engravings in the picture gallery. Fancy needlework and exhibits of that class were in the department of woman's work, of which Mrs. V. H. Campbell was superintendent. All the space allotted the department was fully occupied, and some exhibits were crowded into the department of manufactures. The display of pictures could have been easily doubled if there had been room to hang them. The display included nearly four hundred oil paintings and water colors, three-fourths of the number from outside the county of Milwaukee. Pictures were judged by Mrs. S. L. Sheldon, of Madison. I am satisfied from the experience of this year that the single judge system is best adapted to the work of this department. The department of woman's work occupies a somewhat anomalous position. It is independent, and yet subordinate. If it exists it should be absolutely independent. Since it was organized it has been well filled and well managed. But it is essentially a discrimination against women to classify their work separately. They have ample taste and ability to compete with man in works of art. This has been proved in the award of premiums in the fine art department annually since the first state fair.

The suggestion is respectfully made that all works of an artistic character be entered in the fine art department, and that a new and independent department of woman's work be created, which shall have charge of all exhibits that are distinctively the handiwork of women.

H. C. ADAMS,
Superintendent Fine Art Department.

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REPORT OF WOMAN'S DEPARTMENT.

To the Executive Board of the Wisconsin State Agricultural Society:

GENTLEMEN—Your superintendent of department K—Woman's Work, desires to submit the following report: This department was filled to overflowing with a fine display of artistic skill and handiwork of women. The quality of the work was much finer than that of the previous year. Some slight changes in the department made all of the space more available and the display more creditable. Much of the exhibit was of so fine and delicate a character that to expose it to the dust that was everywhere unavoidable would cause it to be ruined, consequently show cases had to be provided; these made it more easy to systematize the exhibit and greatly facilitated the labor of assistants and judges.

Noticeable in this exhibit were specimens of work from three county asylums for the insane, Iowa, Dane and Rock; that from Rock county being the largest and finest, and reflected no little credit upon the matron, Mrs. Allen, who supervised the work of these unfortunate inmates. As a token of recognition of their efforts, I beg leave to ask your honorable board that a diploma be awarded them for their exhibit.

The year this department was created the Wisconsin Woman's Suffrage association gave $50 to be used for premiums in class 65, works of art, this year they were unable to give that amount, consequently premiums had to be lowered, which caused a little dissatisfaction among former exhibitors, and although it was thought that the premium list had been most carefully revised, it was discovered after the lists were printed and sent out, that some unjust discriminations had been made, which, I trust, will be righted in the list for the fair of 1890.

I know there is a disposition on the part of a few to look upon the department of woman's work as one made up of

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trifles and hardly worth the expense of sustaining it, but life is made up of the veriest trifles, and all efforts to make our homes more attractive should be encouraged and not under-rated. To many who visit the state fair this department has more attractions than is afforded them upon any other portion of the grounds.

Respectfully submitted,

VIE H. CAMPBELL,

Superintendent Woman's Work.

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MINUTES OF EXECUTIVE BOARD MEETINGS.

Meetings during week of Fair of 1889:

In accordance with the requirements of the by-laws of the Wisconsin State Agricultural Society, the executive board met at club rooms in Plankinton House, Milwaukee on the evening of September 16, 17, 18 and 20, and on the morning of the 21st, disposing of such matters of interest as arose in the management of the fair.

ANNUAL DECEMBER MEETING, 1889.

The executive board met in the Agricultural rooms, Tuesday evening, 7:30, December 3, 1889.

Fx-President Fratt in the chair. Present, Messrs. Miner, Cox, Adams, Newton, Fratt, Clark and Beaumont.

Treasurer Miner read his report which having been compared with vouchers of secretary, was found correct and accepted.

On motion the salary of assistant secretary was raised to $1,000 per year.

Meeting adjourned.

FEBRUARY MEETING.

AGRICULTURAL ROOMS, MADISON, WISCONSIN, FEBRUARY 3, 1890.

Meeting called to order with President Mitchell in the chair. Present, Messrs. Cox, Boyd, Smith, Arnold, Wilson, Parkinson, Beaumont, Fratt, Clark, C. T. Fisher, Mitchell, Miner, Adams and Newton.

Minutes of last meeting read and accepted. Reading reports of department superintendants for fair of 1889.

On motion the State Horticultural Society were requested

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to submit list of premiums for Fruit and Flower department at next fair, amount offered not to exceed by more than $50, those offered for 1889.

On motion of Secretary Newton, the restriction of Dairy department exhibits to state exhibitors was referred to the Dairyman's Association.

Entry fee was changed from $1.50 to $2.00, and several corrections made in premium list.

Adjourned till 9 A. M.

TUESDAY, February 4, 9 A. M.

President Mitchell in the chair. Present, Messrs. Hitt, Cox, Boyd, Smith, True, Arnold, Wilson, Beaumont, Adams, Parkinson, Fratt, Hubbard, Clark, Mitchell, Miner and Newton.

On motion the board proceeded to elect by ballott the following superintendents:

Horses —J. M. True, Baraboo.
Speed — J. G. Boyd, Milwaukee.
Cattle — Alex. A. Arnold, Galesville.
Sheep — C. M. Clark, Whitewater.
Swine — E. Beaumont, Hartland.
Poultry — S. H. Seamans, Milwaukee.
Agriculture — B. S. Hoxie, Evansville.
Machinery — A. W. Vaughn, Lodi.
Manufacturers — H. D. Hitt, Oakfield.
Fine Arts. — H. C. Adams, Madison.
Marshal — G. G. Cox, Mineral Point.
Gates — N. D. Fratt, Racine.
Forage — C. T. Fisher, Wauwatosa.

On motion of Mr. Adams, the department of Woman work was made an independent department and the secretary being so instructed, cast the vote of the board for Mrs. Vie H. Campbell for superintendent of it.

On motion of Mr. Arnold, the office of "Superintendent of Transportation" was created and S. D. Hubbard, Mondovi, elected to the position.

On motion of Mr. Fratt, the president, secretary and treas-

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urer were authorized to borrow whatever money may be necessary to pay running expenses of the society until the next fair.

Superintendents were authorized to employ expert judges in their departments, as in their judgment were deemed necessary.

Messrs. True, Cox and Boyd were appointed committee on revision of premiums for horses.

Messrs. Arnold, Clark and Beaumont for cattle.

Messrs. Clark, Fratt and Arnold for sheep.

Messrs. Beaumont, Wilson and Wylie for swine.

Mr. Wilson for poultry.

Mr. Parkinson for agriculture.

Mr. Hitt for manufactures.

Mr. Adams for fine arts.

Mrs. Campbell, Miss Fuller and Mr. Adams for Woman's department.

Adjourned till 2 P. M.

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2 P. M.

Ex-President Fratt in chair.

In the matter of protested premium, the judge's decision was sustained.

Reports of committees on revision of premium list accepted.

On motion, the secretary was instructed to rent or buy tents as he saw fit. Also to provide for printing premium list as seemed best to him.

Dates for holding the next state fair were those given at meeting of Fair Circuit, September 15, 16, 17, 18, 19, in Cold Spring Grounds, Milwaukee.

Adjourned.

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MINUTES OF SOCIETY MEETINGS.

ANNUAL ELECTION.

The annual election of officers of Wisconsin State Agricultural Society was held in Germania Hall, Milwaukee, Thursday evening, September 19th, and the following officers for the year 1890 were elected:

President, John L. Mitchell, Milwaukee.
Secretary, T. L. Newton, Beaver Dam.
Treasurer, Cyrus Miner, Janesville.
Vice Presidents:
Seth Fisher, Center.
H. D. Hitt, Oakfield.
G. G. Cox, Mineral Point.
James G. Boyd, Milwaukee.
John M. Smith, Green Bay.
A. W. Vaughn, Lodi.
John M. True, Baraboo.
A. A. Arnold, Galesville.
W. W. Wilson, Wausau.

Additional members of the board:
E. Beaumont, Hartland.
H. C. Adams, Madison.
A. C. Parkinson, Columbus.
N. D. Fratt, Racine.
S. D. Hubbard, Mondovi.
C. M. Clark, Whitewater.
C. T. Fisher, Wauwatosa.

The following resolution was adopted:

To amend article III. of the constitution, by striking out the word "seven" where it occurs in the third line of said article, and inserting in lieu thereof, the following words, "one additional member from each congressional district."

Adjourned.

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ANNUAL DECEMBER MEETING.

AGRICULTURAL ROOMS, DECEMBER 4, 1889.

The annual meeting of the Wisconsin State Agricultural Society for the transaction of business was held in their rooms, December 4, at 10 A. M. Quorum present. Ex-President Fratt in the chair. Treasurer Miner read his report for the fiscal year. On motion of Mr. Doyon, a committee consisting of Messrs. D. Curtis, J. Van Etta and W. H. Jacobs was appointed to examine and report on same. Committee reporting the same true and correct, it was adopted.

Adjourned.

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TREASURER'S REPORT.

To the officers and members of the Wisconsin State Agricultural Society:

GENTLEMEN:—I have the honor to hand you herewith report of the financial transactions of your society for the year ending December 4, 1889.

Respectfully submitted,

CYRUS MINER,

Treasurer.

Agricultural rooms, Madison, December 4, 1889.

RECEIPTS.

Amount from 1888	$2,201 00	
Amount from loans	3,000 00	
Amount from printing premium list	100 00	
Amount from membership	280 00	
Amount from sale of tickets	12,960 41	
Amount from entry fees	429 50	
Amount from rents	330 00	
Amount from stall rent	419 00	
Amount from state	4,786 60	
Amount from sale of forage	80 00	
Amount from sale of fertilizer	10 00	
Amount from sale of grain	89 82	
Amount from ground privileges	2,097 39	
Amount from 10 per cent. on races	2,632 00	
Amount from rent of shafting	175 50	
		$29,541 23

DISBURSEMENTS.

Paid secretary's warrants of 1889	$28,130 99	
Paid secretary's warrant, 538, of 1887	8 00	
		$28,138 99
Balance on hand		$1,402 23
Unpaid orders and estimated liabilities	$1,187 00	

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SECRETARY'S WARRANT ACCOUNT.

No.	*To whom and for what issued.*	*Amount.*
1	American Trotting Association..	$54 00
2	Miller, John, representative from Jefferson county	12 68
3	Milwaukee express	8 80
4	Newton, T. L., secretary, salary	150 00
5	Fuller, F. L., asst. secretary, salary	66 68
6	Void.	
7	Boyd, J. G., work on grounds	151 80
8	Harting, Fred., taxes	707 52
9	Bigelow, F. G., rent	250 00
10	Democrat Printing Co., printing	11 70
11	Yewdale, J. H., printing	10 75
12	Whalen, J. N., representative Buffalo county	24 20
13	Rhodes, J., representative Trempealeau county	22 04
14	Schwab Stamp Works, stamps	25 00
15	Void.	
16	Hughes, Thomas, printing	30 00
17	Wilkes, J. H., delegate, Washington county	10 10
18	Newton, T. L., secretary, salary	150 00
19	Fuller, F. L., asst. secretary, salary	66 66
20	True, J. M., board meeting expenses	5 10
21	Wilson, Wm., board meeting expenses	16 00
22	Hitt, H. D., board meeting expenses	5 77
23	Fitch, J. R., rep. Lafayette county	12 00
24	Cox, G. G., board meeting expenses	7 00
25	Vaughn, A. W., board meeting expenses	5 00
26	Beach, C. R., convention expenses	7 50
27	Western Union Telegraph Co	4 25
28	Clough, Chas., paint, state fair signs	25 00
29	Newton, T. L., paid expenses of speakers	17 31
30	Newton, T. L., secretary, salary	150 00
31	Fuller, F. L., assistant secretary, salary	66 67
32	Hastreiter, R., clerk	10 00
33	Western Union Telegraph Co	5 00
34	Sheasby, F., painting	3 50
35	Newton & Wenz, cloth for banners	100 00
36	Void.	
37	Newton, T. L, convention expenses	7 50
38	Simonson, A., convention expenses	2 50
39	Newton, T. L., secretary, salary	150 00
40	Fuller, F. L., assistant secretary, salary	66 68
41	Western Union Telegraph Co	4 70
42	Schwab Stamp Co., stamp works	85
43	Newton, T. L., secretary, salary	150 00
44	Fuller, F. L., assistant secretary, salary	66 66
45	Newton, T. L.. convention expenses	15 00
46	Newton, T. L., paid rent	250 00
47	Western Union Telegraph Co	2 80
48	Western Farmer, advertising	1 00
49	Newton, T. L., secretary, salary	150 00

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No.	*To whom and for what issued.*	*Amount.*
50	Fuller, F. L., assistant secretary, salary	$66 67
51	Newton & Wenz, goods	34 12
52	Milwaukee Journal, advertising	10 00
53	Western Union Telegraph Co	1 75
54	Grant, Francis, convention reporter	100 00
55	Boss Plow Works	30 00
56	Hastrieter, Robert, clerk	15 00
57	Totto, O., clerk	4 50
58	Hughes, D., printing	33 00
59	Newton, T. L., secretary, salary	150 00
60	Fuller, F. L., assistant secretary, salary	66 66
61	Western Union Telegraph Co	1 80
62	Void.	
63	Eastman, John, advertising expenses	50 00
64	Clough, C. E., advertising expenses	50 00
65	Vesper, George, advertising expenses	50 00
66	Palmer, John, advertising expenses	50 00
67	Bower, R. N., pails	10 60
68	Pritzlaff, J., hammers, etc.	9 68
69	Yewdale & Son, posters	167 00
70	Bigelow, F. S., rent	250 00
71	Newton, T. L., secretary, salary	150 00
72	Fuller, F. L., assistant secretary, salary	66 67
73	Norwalk Publishing Co., books	10 00
74	Sherman & Hutchins, printing	23 50
75	Eastman, R. W., advertising expenses	25 00
76	Riverside Printing Co	117 50
77	Sacket Wired Tag Co	10 50
78	Western Union Telegraph Co	7 70
79	Clough, C. E., advertising expenses	25 00
80	Clough, C. E , paid workmen	25 00
81	Eastman, John, advertising expenses	15 00
82	Totto, O., clerk	11 00
83	Palmer, John, advertising expenses	25 00
84	Clough, C. E., advertising expenses	25 00
85	Newton, T. L., secretary, salary	150 00
86	Fuller, F. L , assistant secretary, salary	66 66
87	Clough, C. E., carpenter work	50 00
88	Newton, T. L., paid Hick's Printing Co	20 00
89	Eastman, John, advertising expenses	20 00
90	Totto, O., clerk	13 50
91	Newton & Wenz, goods	80 20
92	Clough, C. E., whitewashing	30 00
93	Eastman, R. W., advertising expenses	5 00
94	Steele, John, sheep judge	5 00
95	Druer, W. J., premium	50 00
96	Greer, J. M., premium	250 00
97	Moore, H. B., premium	125 00
98	Eastman, John, labor	10 00
99	Smith, F. S., labor	75 00
100	White, C. L., labor	250 00
101	Case, J. I., labor	175 00
102	Brown, D. S., labor	75 00

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No.	*To whom and for what issued.*	*Amount.*
103	Roys Bros., labor	$50 00
104	Brodhead, E. H., labor	250 00
105	Sells, H. D., labor	125 00
106	Dodge, W. J, premium	75 00
107	Prentice, J. D., premium	50 00
108	Travis, E. O., premium	250 00
109	Dwyer, W. J., premium	125 00
110	Sanborn, W. A., premium	75 00
111	Void.	
112	Martin, J. D., premium	50 00
113	Harkness, D. S., printing	74 45
114	Harkness, D. S., printing	15 00
115	Abrams, D., delegate, Dodge county	17 40
116	Hamilton, Hugh	13 80
117	Clough, C. E., white washing	40 00
118	Carey, J., Jr., delegate, Blake's Prairie society	17 52
119	Miner, Cyrus, treasurer's clerk	210 00
120	Knight, Henry, delegate, Pepin county	23 90
121	Ellenwood, A. P., delegate, Baraboo Vallay society	16 52
122	Blake, Edward, gate attendant	17 50
123	Potts, S. D., gate attendant	15 00
124	West, J. S., gate attendant	17 50
125	Curtis, F. C., gate attendant	17 50
126	Fitzgerald, H. M., gate attendant	17 50
127	Robertson, J., gate attendant	17 50
128	Charnley, J., gate attendant	17 50
129	Marsland, E. H., gate attendant	17 50
130	Millett, Chas., gate attendant	17 50
131	Flanders, I. F., gate attendant	17 50
132	Taylor, E. S., gate attendant	17 50
133	Oslook, J., gate attendant	17 50
134	Davidson, A., gate attendant	17 50
135	Ganes, J. W., delegate, Dodge county	16 48
136	Smelkor, J. P., delegate, Iowa county	15 86
137	Van Matre, delegate, S. W. S. A	17 00
138	Smart, A. D., delegate, Manitowoc county	12 62
139	Clark, E. F., delegate, Trempealeau county	22 40
140	McGilvra, A. D., assistant horse dept	8 00
141	Down, L., judge, department A	10 00
142	True, E. H., assistant horse department	17 50
143	True, J. M., superintendent horse department	48 88
144	Warren, F. C., judge horse department	10 00
145	Livingston, T. B., judge horse department	10 00
146	Sternibzke, C., delegate, Clark county	19 68
147	Jacobson, N., delegate, Ozaukee county	7 80
148	Anderson, D. L., delegate, Lincoln county	23 00
149	Van Wagner, J. E, delegate, Vernon county	20 30
150	Reynolds, J. E., delegate, Walworth county	10 88
151	Dey, John, delegate, Outagamie county	15 80
152	Washburn, W., delegate, Barron county	29 00
153	Springer, W. A., delegate, Waupacca county	15 50
154	McGilvra, W. A., delegate, Sauk county	15 20
155	Pierce, N. E., delegate, Sheboygan county	11 12

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No.	To whom and for what issued.	Amount.
156	Hodges, G. F., delegate, Green county	$10 80
157	Smith, J. M., delegate, Brown county	14 78
158	Klebemobel, C. R., delegate, Shawano county	18 80
159	Chrisler, E., assistant machinery department	27 50
160	Chrisler, J., labor	88 50
161	Smith, John, delegate, Depere society	12 54
162	Wilson, Wm., superintendent poultry department	45 80
163	Mansfield, F. C., judge poultry department	10 00
164	Uihlein Bros, premiums	250 00
165	Briggs, Wm., premium	125 00
166	Roberts, D. M., assistant, department E	15 00
167	Grier, J. M., premium	75 00
168	Keller, N. E., delegate, Monroe county	12 20
169	Stanchfield, S. B., delegate, Fond du Lac county	11 90
170	Rix, W. P., delegate, Washington county	9 92
171	Eldredge, S. W., premium	50 00
172	Eldredge, S W., premium	250 00
173	Flack, I. M., premium	125 00
174	Carey, D. W., premium	75 00
175	Patton, E. H., premium	50 00
176	Tubbs, I., premium	16 76
177	Harrington, D. B., watch	10 00
178	Lindsay Bros, engines and men	60 00
179	Wentworth, E. W., delegate Pierce county	25 90
180	Gardner, E. W., assistant machinery department	20 00
181	Updyke, F., clerk	32 00
182	Cox, S. S, horse for marshal	9 00
183	Dowell, R. D., assistant marshal	23 00
184	Norton, W. T., premium	50 00
185	Cavan, W. S., premium	65 00
186	Fond du Lac band	70 00
187	Davis, Geo., & Co., premium	30 00
188	Harvey, J. L., delegate, Kewaunee county	15 56
189	Lanenberger, J., shingling stalls	272 61
190	Warren, R. D., premium	30 00
191	Costell, Geo., premium	50 00
192	Hatch, C. A., delegate, Richland county	15 50
193	Peterson, I., premium	50 00
194	Brodhead, E. H., premium	75 00
195	Roys, J. I. & E. R., premium	125 00
196	Case, J. I., premium	250 00
197	Moore, H. C., premium	125 00
198	Roys, E. B., premium	125 00
199	Ferrick, W. C., premium	75 00
200	Goodman	7 50
201	Thompson, delegate, Crawford county	17 64
202	Calkins, J. E., police	8 00
203	Terwilliger, S., assistant marshal	30 00
204	Beaumont, E., superintendent swine	46 15
205	Fratt, N. D., superintendent gates	31 25
206	Fratt, N. D., board meeting expenses	26 13
207	Briggs, H. A., judge, department D	5 00
208	Arnold, A. A., superintendent cattle	46 59

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No.	To whom and for what issued.	Amount.
209	Clark, C. M., superintendent swine	$40 00
210	Tratt, F. W., judge, department C	5 00
211	Striker, J., police	6 00
212	Moran, F. C., police	8 00
213	Doolittle, J. B., judge, department D	10 00
214	Felts, Chas., band	50 00
215	Jones, E. B., horse for marshal	24 00
216	Lyall, J., judge, department B	10 00
217	Wixley, G., assistant superintendent, department B	17 50
218	Jones, H. C., judge, department B	10 00
219	Kenney, M., labor	9 00
220	Bush, M. M., work on track	8 00
221	Henwood, N. A., assistant, art department	30 00
222	Noyes, A., assistant, art department	6 00
223	Asch, Mrs. P., assistant superintendent, art department	28 00
224	Coe, Mrs. A. S., assistant superintendent, art department	4 00
225	Adams, H. C., superintendent, art department	57 56
226	Totto, O., clerk	36 00
227	Howard, Dora G., clerk	33 00
228	Jones, Sallie, clerk	33 00
229	Hastreiter, Robt., clerk	45 00
230	Cox, G. G., marshal, police, etc	278 00
231	Halstead, W. F., assistant, department G	12 00
232	Jones, J. W., clerk	29 00
233	Hitt, H. D., superintendent, department I	57 15
234	Jones, E. D., assistant, department I	21 00
235	Miner, Cyrus, loan and interest	3,071 00
236	Pollard, J., assistant, department G	35 00
237	Cox, G. G., expenses	12 20
238	Noyes, John, police	11 00
239	Waters, John, labor	12 50
240	Case, J. I., superintendent, speed department, etc	350 00
241	Hamoom Cal. Co., tally ho coach	20 00
242	Eastman, John, advertising expenses	10 00
243	Doyon, M. R., assistant treasurer	30 00
244	Loomis, H. K., superintendent dairy department	45 00
245	Crowles, O. H., superintendent grounds	75 00
246	Prichard, Miss Minnie, clerk	33 00
247	Chase, A. L., account as per bill	118 75
248	Murray & Co., use of tent	50 00
249	Shadbolt & Boyd, merchandise	8 10
250	Sentinel Co., advertising	56 00
251	Register Printing Co., advertising	5 00
252	Gimble Bros., merchandise	11 01
253	Arbetier Zeitung, advertising	5 00
254	Wisconsin Agriculturalist, advertising	50 00
255	Wisconsin Planing Mill Co., lumber	155 62
256	Northwestern Fuel Co., fuel for engines	38 87
257	Dunton's Spirit of the Times, advertising	17 00
258	Collingbourne, T. P. & Co., printing	7 00
259	Western Farmer, printing	50 00
260	Yendale & Sons, printing tickets	160 45

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No.	To whom and for what issued.	Amount.
261	Case, J. A., work in speed department	$4 0
262	Boyd, J. S., paid freight	2 03
263	Moody, C. W., water tax	25 00
264	Cramer, Aikens & Co., advertising	42 84
265	Hilderbrand, A., patrol	14 00
266	Mathews Bros., tables	5 00
267	Vesper, Geo., advertising	44 40
268	Dutser, T. W., clerk	36 02
269	Martin, T., flags	24 00
270	Commonwealth Printing Co., advertising	10 00
271	Milwaukee Daily News, advertising	10 00
272	Neidecken & Co., paper	7 52
273	Pritzlaff, I., hardware	356
274	Hoffman & Billings, merchandise	2 62
275	American Trotting Association, annual dues	54 00
276	Gross, Phil., clothes lines	2 00
277	Schwab Stamp Co., badges	4 75
278	Western Union Telegraph Co	6 65
279	Boyinton & Co., livery	42 00
280	Trattner, H , dinner tickets	18 50
281	Kentzler Bros., livery	3 00
282	Sheldon, Mrs. S. L., judge, department K	11 89
283	Phillips, J., advertising	25 00
284	Sanborn, Kerster, cartage	6 00
285	Warren, J. D., grain	118 92
286	Grover, E. J., hay and straw	158 30
287	Frubach, A., rent of Germania hall	15 00
288	Foley, M., hay and straw	166 15
289	Cushing, J., hay and straw	41 32
290	Fisher, C. T., hay and straw	82 90
291	Fisher, C. T., superintendent forage department, and helpers	94 00
292	Hoxie, B. S., superintendent horticulture	52 00
293	Herald Co., advertising	33 00
294	Lang, J., use of tent	25 00
295	Peffer, Miss Kate, clerk	28 00
296	Foley, J., hay and straw	101 94
297	Steiner, H., hay and straw	98 62
298	American Express Co	2 50
299	Journal Co., advertising	38 00
300	Duester, V. P., & Co., advertising	21 50
301	Newton, T. L., paid Portage band	70 00
302	Newton, T. L., paid Baraboo band	75 00
303	Crowl, O N., paid dinner tickets	82 00
304	Newton, T. L., paid sundries	113 00
305	Clough, C. E., whitewashing	40 00
306	Peck's Sun, advertising	10 00
307	Milwaukee Exposition, advertising	77 50
308	Pritzlaff, J., tar paper	45 54
309	Newton, T. L., secretarys, salary	150 00
310	Fuller, F. L., assistant secretary, salary	66 67
311	Newton, T. L., paid sundries	19 50
312	Riverside Printing Co	2 75

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No.	*To whom and for what issued.*	*Amount.*
313	Miner, Cyrus, paid expense and sundries	$45 60
314	Miner, Cyrus, attendance at fair	30 00
315	Miner, Cyrus, paid Plankington house	30 75
316	Vesper, Geo., labor	2 00
317	Clough, C. E., painting banners	122 68
318	Andrews & Thayer, livery	25 20
319	Mathews Bros., cots	2 50
320	Chicago Horseman, advertising	30 00
321	Vaughn, A. W., superintendent machinery department	69 48
322	Campbell, Mrs. V. H., superintendent woman's department	50 00
323	Western Union Telegraph Co	5 25
324	Pember, R. T., delegate, Rock county	12 86
325	Totto, O., clerk	7 00
326	Grenier, Chas., labor	10 00
327	Gimbel Bros., merchandise	1 11
328	Kelley, T. L, & Co., jack pins	1 14
329	Heavlt, J., labor	33 44
330	Vesper, Geo., labor	6 87
331	Noyes, J., labor	5 62
332	Grenier, C., labor	42 03
333	Lyons, J., labor	26 25
334	Eastman, R. E., advertising expenses	37 90
335	Eastman, John, advertising expenses	93 17
336	Andrews, W., premium	27 00
337	Arnold, A. A., premium	23 40
338	Anderson, D. L., premium	9 90
339	Angell, C. E., premium	34 20
340	Ablard, W., premium	8 10
341	Acker, Geo., premium	12 60
342	Abbott Buggy Co., premium	5 40
343	Andrews, Mrs. John, premium	16 20
344	Axton, Mrs. Lizzie, premium	1 00
345	Bowels, Hadden & Co., premium	32 40
346	Briggs, H. A., premium	18 00
347	Blodgett, A. J., premium	7 20
348	Bradley, L. T., premium	22 50
349	Barker, J. B., & Son, premium	36 00
350	Brabazon, J. R., premium	88 20
51	Band, S. A., premium	3 00
352	Breitrick, W. J., premium	27 00
353	Bordner, W. J., premium	27 00
354	Brand Stove Co., premium	13 50
355	Brewster Carriage Co., premium	4 50
356	Browning, King & Co., premium	5 40
357	Bunn, Mary, premium	47 70
358	Buel, Mrs. L. M., premium	25 20
359	Burgess, Mrs. L. R., premium	11 70
360	Bartels, Genevieve, premium	12 60
361	Berket, Anna, premium	1 00
362	Bates, Mrs. A. C., premium	4 00
363	Caldwell Bros, premium	20 00
364	Caldwell Bros., premium	93 40
365	Caton Bros., premium	63 00

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No.	To whom and for what issued.	Amount.
366	Cobb, Henry Ives, premium	$20 50
367	Chaffee, C., premium	9 00
368	Carrier. H., premium	9 00
369	Cupples, C. M., premium	206
370	Cosgrov, Live Stock Co., premium	165 80
371	Collard, Chas., premium	10 80
372	Cavan, C. G., premium	55 60
373	Craig, S. S., promium	26 10
374	Currie Bros., premium	35 10
375	Cribb, G. C., premium	9 90
376	Creamery, Package Co., premium	3 00
377	Chicago Bell Co., premium	11 70
378	Crouch, Mrs. Levi., premium	25 20
379	Clark, Mrs. C. L., premium	10 80
380	Coe, Mrs. J. A., premium	20 70
381	Duyer, A. J., premium	13 50
382	Dixon, J. H., premium	21 60
383	Davis, Geo. F., premium	91 50
384	DeGelke, Peter, premium	2 00
385	Davis, J. C., premium	27 90
386	Dey, John, premium	5 40
387	Daniels, E. M., premium	2 00
388	Dorsey, G. W., premium	13 50
389	Ettinger, L. F., premium	22 50
390	Erch, H. I., premium	4 50
391	Empire Fur Co., premium	18 00
392	Enders, F., premium	48 60
393	Evans, Mrs. E. F., premium	4 50
394	Fox, A. O., premium	18 00
395	Fox, A. O., premium	98 10
396	Flowers, J. M., premium	9 00
397	Ferrick, W. C., premium	18 00
398	Ferix, Bert, premium	13 50
399	Fralck, D., premium	6 30
400	Frick, Wm., premium	33 30
401	Fox, John, premium	73 80
402	Fisher, M. E. W., premium	13, 60
403	Fisher, Mrs. E. P., premium	27 90
404	Grover, F. B., premium	31 50
405	Griffith, C. N., premium	135 00
406	Gillett & Son, premium	161 10
407	Gillett, E., premium	9 90
408	Gammerderger, C., premium	123 30
409	Greengo, A. E., premium	20 70
410	Gaston & Son, premium	10 80
411	Galloway, E. A., premium	13 50
412	Grover, Mrs. E. T., premium	32 40
413	Gehl, Nash, premium	4 50
414	Greer, C. N., premium	22 50
415	Gimbel, Bros., premium	13 50
416	Guenther, Mrs. Geo., premium	5 40
417	Grab, Mrs. Susan, premium	4 51
418	Glass, Mrs. G. F., premium	24 30

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No.	To whom and for what issued.	Amount.
419	Hazen, Chester, premium	$36 90
420	Hartshorn, J. M., premium	13 50
421	Harding, Geo., premium	133 20
422	Hickey & Son, premium	52 20
423	Hill, J. T., premium	37 80
424	Harland, Wm., premium	17 10
425	Harrington, D. B., premium	13 50
426	Hatch, H., premium	2 00
427	Hollister & Ludlong, premium	13 50
428	Hoard, A. R., premium	6 30
429	Hasting, Mrs. Ellen, premium	23 40
430	Hay, A. J., premium	3 00
431	Hirschinger, Chas., premium	36 00
432	Haines, Geo., premium	79 20
433	Hoyt, F. E., premium	4 50
434	Henny Buggy Co., premium	34 20
435	Hirsch, Chas., premium	3 00
436	Huntley, D., premium	2 00
437	Harrison, Mrs. Mary, premium	5 40
438	Halverson, Mrs. E., premium	4 00
439	Herr, Mrs., premium	2 00
440	Johnson, Mrs. L., premium	22 50
441	Jones, E. S., premium	31 50
442	Jacobs, W. H., premium	100 00
443	Jacobs, W. H., premium	165 50
444	Jones, Samuel, premium	17 10
445	Jones, D. B., premium	21 60
446	Jeffrey, Geo., premium	55 80
447	Johnson, Riella M., premium	12 60
448	Joyce, Maria A., premium	2 00
449	Zimmerman, J. C., premium	3 00
450	Yorgey & Rich, premium	6 30
451	Van Camp, J. B., premium	3 00
452	Uhlien Bros., premium	110 70
453	Kellogg, R. B., premium	77 20
454	Klein, Ge ., premium	133 20
455	Kellogg, Geo. G., premium	29 70
456	Kingsley, Mrs. C. C., premium	21 60
457	Kalamazoo Wagon Co., premium	9 90
458	Keystone Manufacturing Co., premium	3 00
459	Kavanaugh, Mrs. T. T., premium	81 90
460	Lyall & Schillinger, premium	38 50
461	Lowell, R. D., premium	14 00
462	Lowell, R. D., premium	58 00
463	Mitchell, J. L., premium	100 09
464	Leslie & Burwell, premium	94 30
465	Long, John	34 40
466	Lytle, Geo. A., premium	70 20
467	Love & Son, premium	36 90
468	Love Bros., premium	9 90
469	Ogden, J. S., premium	15 30
470	Norton, W. C., premium	75 10
471	Nichols, H. E., premium	3 00

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No.	*To whom and for what issued.*	*Amount.*
472	Nye, Mrs. Edwin, premium	$1 00
473	New Home Sewing Machine Co., premium	4 50
474	Newton, Ada, premium	7 10
475	Thomas, G. B, premium	10 80
476	Tratt, F. W, premium	257 40
477	Thompson, W. M., premium	41 40
478	Tirrell, M , premium	2 00
479	Thayer Refrigerator Co., premium	27 00
480	Toole, Wm., premium	3 00
481	Trapp, Mrs. F., premium	46 80
482	Taylor Mrs. E., premium	3 00
483	Tuttle, Mrs. H. J., premium	4 00
484	Miner, D. B., premium	10 80
485	McShane, Jr., premium	5 40
486	McLaughlin, J. N., premium	7 20
487	Morse & Son, premium	257 40
488	Mehl, John, premium	9 00
489	Martin, John, premium	113 40
490	Mills, R. H., premium	31 50
491	McKerrow, Geo , premium	306 00
492	McCormick, L. J., premium	39 60
493	McKernon, M., premium	6 30
494	Milwaukee Buggy Co., premium	18 00
495	Milwaukee Buggy Co., premium	3 00
496	Mathews & Co., premium	37 80
497	Pabst, Fred., premium	105 30
498	Plentz, John, premium	18 00
499	Pitcher, I. L., premium	45 90
500	Palmer, E. E., premium	89 10
501	Pilgrim, Geo., premium	4 50
502	Porter, N. B., premium	2 00
503	Pattison, A., premium	2 00
504	Phillips, A. J., premium	27 00
505	Plumb, J. C., premium	9 00
506	Palmer, J. S., premium	61 20
507	Pepper, J. S., premium	35 10
508	Pepper, K. F., premium	4 00
509	Pratt, Mrs. O., premium	72 90
510	Rawson, E. L., premium	119 70
511	Rust Bros., premium	148 50
512	Randall Bros., premium	30 60
513	Roberts, E. G., premium	44 10
514	Ringrose, G. W., premium	21 60
515	Root, M. C. H., premium	21 60
516	Rich, A. W., & Co., premium	9 00
517	Reobel & Rhinehardt, premium	76 50
518	Renk, Bertha, premium	3 00
519	Rood, Mrs. G., premium	9 90
520	Renk, Francis, premium	7 20
521	Raab, Julia, premium	5 40
522	Wadsworth, D. T. D., premium	18 00
523	Williams. J. J., premium	165 60
524	Welch, J. E., premium	50 40

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No.	To whom and for what issued.	Amount.
525	Warner, R. D., premium	$60 90
526	West, H. D., premium	70 20
527	Wynobre, A., premium	24 30
528	Washburn, N., premium	4 50
529	Ward, E. G., premium	35 10
530	Widder, Frank, premium	13 50
531	Wittke, R., premium	6 30
532	Wilcox & Son., premium	13 50
533	Wrightmad, E., premium	13 50
534	Whitnall & Co., premium	29 70
535	Wis Van Blunk & Co., premium	4 50
536	Wingault, A., premium	9 00
537	Wheeler & Wilson Co., premium	9 00
538	Wheeler, Helen, premium	3 00
539	Sommers, Peter, premium	18 00
540	Sherman, H. D., premium	13 50
441	Sawyer, C. M., premium	74 70
542	Strain, N. J., premiums	18 00
543	Scoville & Son, premium	36 00
544	Stevenson & Moses, premium	3 00
545	Spinner, L. Z., premium	13 50
546	Stoker, John, premium	13 50
547	Smith & Eastman, premium	6 30
548	Schneider, Edw., premium	18 00
549	Swan, O. J., premium	9 00
550	Stringer, W. A., premium	4 50
551	Staw, E. A., premium	8 10
552	Smith, A., premium	8 10
553	Sheldon, M. J., premium	12 60
554	Schwartz & Co., premium	7 20
555	Sweet. B. F., & H. L., premium	9 00
556	Smith, Thos., & Co., premium	17 10
557	Stevens, D. C., premium	7 20
558	Smith, Mrs. A. D., premium	9 00
559	Stimble, Max, premium	7 20
560	Shea, Mrs. E., premium	3 00
561	Western Union Telegraph Company	11 58
562	Langanberger, J., carpenter work	120 67
563	Helms, L. C., dinner tickets	2 25
564	Denny, J. N., use of show cases	5 00
565	Amberg, Mrs. J., premium	2 00
566	Sherman & Hutchins, advertising	5 00
567	Ford, Mrs. I., dinner tickets	1 00
568	Shirey, Henry, labor	33 00
569	Lyons, J., labor	11 00
570	Flint, W. K., premium	13 50
571	Callahan, Thos., cartage	7 00
572	Schwab Stamp Company, stamp work	53
573	Newton, T. L., secretary, salary	150 00
574	Fuller, F. L., assistant secretary, salary	66 67
575	Bigelow, F. S., rent Cold Spring Park	250 00
576	Western Union Telegraph Company	190 00
577	Hughes, T., advertising	11 50

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No.	*To whom and for what issued.*	*Amount.*
578	Sanger, C. M., premium	$25 00
579	Void	
580	Milwaukee Journal, subscription	5 00
581	Newton, T. L., secretary, salary	150 00
582	Fuller, F. L., assistant secretary, salary	66 66
583	Newton, T. L., paid sundries	25 00
584	Fuller, F. L., paid sundries for departments	84 27
585	Fairbanks Scale Company	8 08
586	Ogilvie, J. S., canvass	1 04
	Total amount of orders drawn	$28,318 77
	Warrants 361, 426, 429, 437, 503, 529, 542, 544, 553, 580, 582, 585 and 586, amounting to $187.78, not presented at date of this report	187 78
	Total amount of orders paid	$28,130 99
	Paid order 538 of 1887	8 00
	Total expenditure	$28,138 99

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PROCEEDINGS

OF THE

STATE AGRICULTURAL CONVENTION.

TUESDAY EVENING, February 4, 1890.

The convention was called to order by Hon. John L. Mitchell, president of the Wisconsin State Agricultural society, who addressed the convention as follows:

Ladies and Gentlemen—The Agricultural society wishes me to thank you for your attendance on this convention—to thank, also, our fellow societies for their kind co-operation, drawn together as we are by identity of purpose—the improvement in the condition of the farmer. Since we met a year ago to discuss farm topics, I trust that practice has followed precept and that, in consequence, your flocks have multiplied, your fields been fruitful and your homes happy. In opening this convention I shall not try to instruct you in agricultural work—your hands and heads are better seasoned than my own. I will touch upon one or two things that bear upon rural life.

There is much agitation among farmers on the subject of railroads. It is possible that resolutions may be offered in this convention seeking to regulate these monster concerns. But there are other roads of equal, if not superior importance of which we will probably hear nothing. They are the dirt roads which pass in front of our farm houses under our very nose. Over them every product of the farm has to be drawn. Over them the children go to school and the old folks to church—with the sermon jolted out of them perhaps, before reaching home. In my drives through the country I have been struck—sometimes forcibly—with the

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bad condition of our highways. The loss of time in transportation and the injury to vehicles, horses and harness caused by hard hauling is incalculable. It is easy to point out a defect, but sometimes difficult to remedy it. Under our present system the farmers do not work out their road tax faithfully or intelligently. The time which is devoted to the roads is made very restful to themselves and teams. We need a law which will make road work in the more thickly peopled parts of the state a realization and not a pretense.

Another thing which I have noticed in my drives — the failure of many farmers to appreciate the moral and material advantanges of pleasant home surroundings — advantages which they might avail themselves of, not by a greatly increased expenditure of money, but by a slightly increased expenditure of energy. Some of our farmer do not comprehend the cash value of home adornments — flowers, shrubs, fruit and shade trees — things that grow while they are asleep. The value of a farm does not depend solely on the fertility of its soil. It depends largely on the surroundings of its owner's home. If its environment is uninviting; if the front yard has been surrendered to the swine and the back yard to the cattle; if the farm house stands bare and desolate, avoided by every beautiful thing; when even "the breath of the morning and the breeze at sun down come to it tainted and impure" — is not the value of the farm impaired? In one's drives a farm will be noticed where neatness reigns, the house is resplendent with fresh paint; the yard is fragrant with flowers; each window has its blossoms, the clap-board their climbing vine. On the next farm, perhaps, will be found a tumble-down cabin, ill-guarded by a shaky fence, the whole place a prey to negligence and decay. There is nothing in external things to cause this contrast — same soil, same climate and same market for the products of the farm. The difference lies in the occupants themselves.

But improvidence does not stop at the dwelling. It pervades the entire farm. The small tools dropped in the fence corner prove volatile things — they flit, like thistle-down,

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no one knows whither. The plow is left in the furrow. The reaper rusts in the field. When the hour for action arrives and time is precious not an implement is in order and the blacksmith shop is a long way off. All this is not bad luck. It is want of management. There seems to be no sufficient reason why any farmer in this fertile region should lack a well-ordered, attractive home — a home in which his wife, weary with laborious years, may take some latter-day comfort in — a home which his girls will cleave to, which his boys will not desert.

Do not understand me as taking, in any sense, a sombre view of the agricultural situation. On the contrary, in my neighborhood prosperity prevails. The neglected farms are few and far between, scattered flocks that serve only to heighten the bright colors of the landscape as a whole. When I think of what our farms once were, what they now are and what they are evidently destined to become, I partake somewhat of the exultation of the poet, who wrote about another land, one no fairer than our own state of Wisconsin:

> "This is the land of every land the pride,
> Beloved by heaven o'er all the world beside;
> Where brighter suns dispense serener light,
> And milder moons imparadise the night;
> A land of beauty, virtue, valor, truth,
> Time-honored age and love-exalted youth.
> This is the spot of earth supremely blest —
> A dearer, sweeter spot than all the rest."

The President — I take pleasure in introducing to you Hon. J. M. Smith, president of the Horticultural society, who will now address you. (Mr. Smiths address is published in Horticultural report for current year.)

The President — Hon. H. C. Adams, president of the Dairymen's association, will now address the convention.

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H. C. Adams—Mr. President, Fellow Presidents, Ladies and Gentlemen:—The roads are bad, very bad, public health is poor, the ice crop is a failure, money is scarce and crops are bad, but, as we look at the program to-night and scan it closely we will be both surprised and pleased at the wonderfully good crop of presidents (laughter), a crop which is unexceptional for personal beauty with the exception of one gentleman. The representatives of the various societies, the Agricultural, Horticultural and others are here to clear the way for the exchange of ideas that is to follow.

HARMONY AMONG SOCIETIES.

The gentlemen who have preceded me have already captured some progressive and aggressive thoughts and placed them in the safe care of your judgment. The State Dairymen's association feels at home amid these surroundings. It has no fear of being stung to death by the Bee association or kicked to death by the Horsebreeders' association. It expects the honey dew of friendship and wisdom from the first, and only asks of the latter that it will trot a Morgan horse against a Jersey cow on a two mile track for a thousand dollars. It knows that the polite gentlemen of the Sheep Breeders' association will keep the "golden hoof" out of our golden butter. It knows that the Swine Breeders will receive us with open arms for the cow is the best friend of the hog and has tossed into the realm of forgotten dreams the old adage, "root hog or die." It knows that if there is anything on this old round earth which will warm the hearts of the Short-horn men it is the presence of an association whose members buy their beef; from the horticulturists we expect fruitful knowledge and friendly sympathy; from the Poultry association, if it shall be here, that nursery of eggs and figures, that respectful toleration which the philosophic hen has ever bestowed upon the modest and patient cow. In a spirit truly fraternal we meet upon this platform and in this hall. The State Agricultural society organized for no special interest, but for the equal good of all gives us a common flag under which

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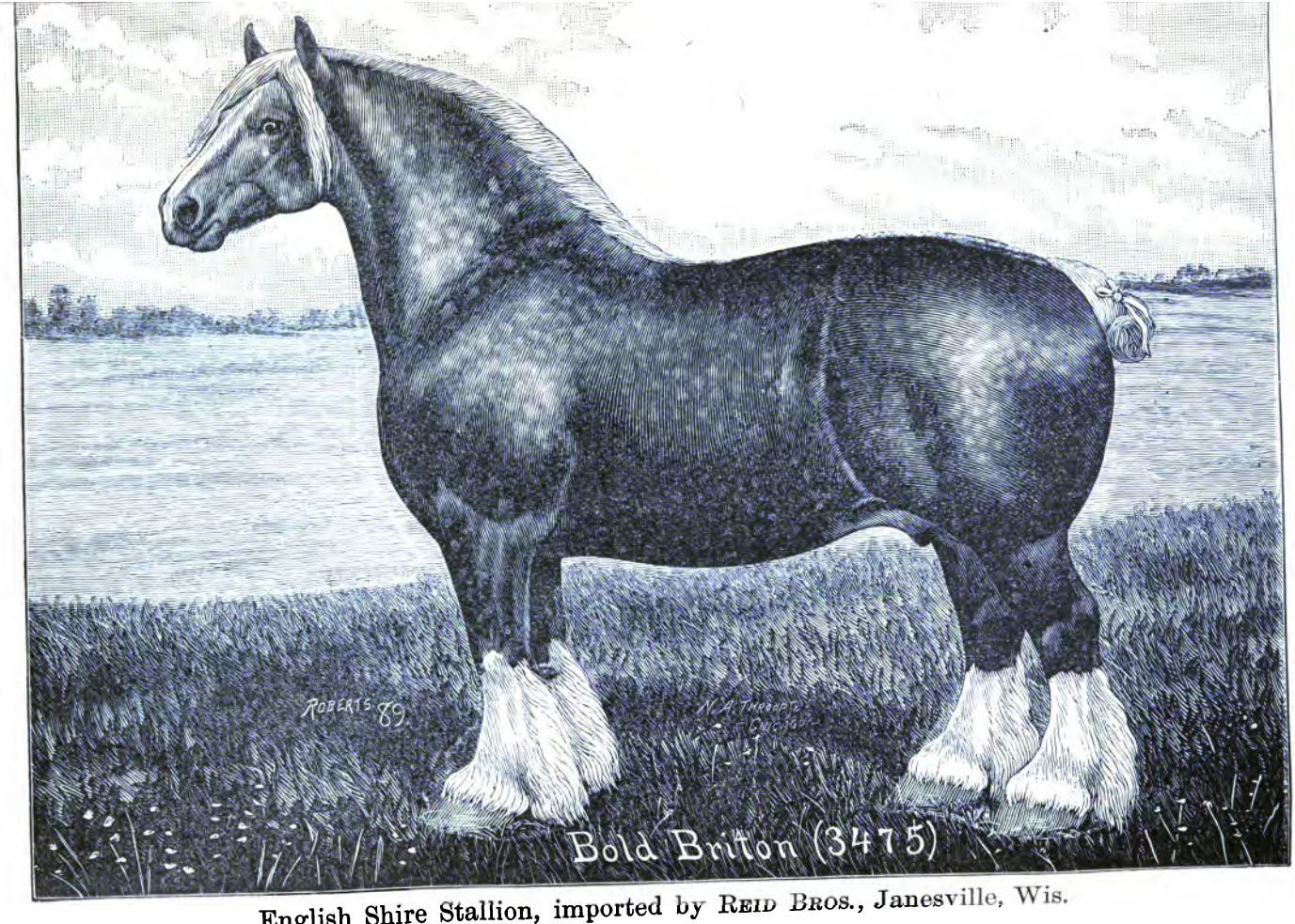

English Shire Stallion, imported by REID BROS., Janesville, Wis.

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we can all rally. However, we may differ as to the means and methods, one great central purpose animates each organization here, a purpose to build up to the greatest extent possible the agricultural interests of this commonwealth. To strengthen that purpose, to define it more clearly as to detail, to make and kill ideas in the life and death process of discussion we meet in joint convention.

PROGRESS OF THE DAIRY INDUSTRY.

For eighteen years the State Dairymen's association has made a relentless fight against poor milk, poor butter, poor cheese, poor cows, poor farms and poor farmers. It was organized by seven men. Then Wisconsin had 300,000 cows, now she has 700,000; then we produced 22,000,000 pounds of butter annually, now we produce 50,000,000; then we made 1,500,000 pounds of cheese each year, now we make thirty times that amount. The average butter yield per cow has been increased 60 per cent. in twenty years.

The Dairymen's association is not to be credited with the whole of this improvement, but it can properly claim much of it. It has driven more good cows from the straw stack into the barn, and more poor cows from the barn to the slaughter house than any single influence in the state. It has been held steadily to its original purpose. Standing upon the solid judgment of that old Roman of the Wisconsin dairymen, Hiram Smith, brightened and strengthened by the wit and trenchant thoughtfulness of Chas. R. Beach, made intensely practical and radiant with reason by the restless intellect of W. D. Hoard, permeated by a feeling of mutual regard which has made personal jealousy an impossibility, it has been a tremendous force constantly exerted against the thoughtlessness and ignorance of Wisconsin farmers. It requires a tremendous force to disturb the inertia of average judgment. That judgment has been moved, but it should be revolutionized. To-day we find good dairymen in every county in the state. To a man they are making money. But where you find one good one you find three poor ones. There are three poor cows to every good one, three pounds of butter redolent with death for one fresh with fragrant life.

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THE WORST TRUST ON EARTH.

There is one trust that does more damage to Wisconsin farmers than all the monopolies, combines, corporations, syndicates, aggregations and governmental oppressions that haunt the spectre-ridden brain of Ignatius Donnelly, and that is the everlasting trust in luck. It keeps them raising wheat at 70 cents a bushel and oats at 15 cents. It helps them to keep a steer until he is three years old and then have him weigh 1,200 pounds, sell at 2½ cents per pound and cost $10 more than he comes to. It makes them the special victim of drouth and the particular sufferers by wet. It makes them down at the heel, down in the mouth and down on their neighbors who are not down. Nothing would be easier for these men than to trade a large stock of their luck for a little calculation and some knowledge. There is knowledge enough around and it is where every body can get some. Newspapers and institutes, conventions, granges, experiment stations and good farmers keep ideas in circulation, but any quantity of men who would snatch a dollar at sight, dodge an idea worth ten dollars and let it go by. This idea has been launched at the heads of Wisconsin farmers for eighteen years: "The product of a good herd of cows brings good and certain profits at once, and the land upon which they are kept will increase in value." In some counties this idea took strong root, notably in Sheboygan and Jefferson. A comparison of farm values between these counties and the two non-dairy counties of Vernon and St. Croix, on the basis of the census of 1885, shows a difference in farm values of land and products of from three to five hundred per cent. in favor of the dairy counties. But making the comparison between the old and comparatively rich counties of Dane and Columbia, where dairying was a subordinate interest when the census was taken, we get the following table:

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Value per acre.	Value per acre of annual product on improved land.	YIELD OF GRAIN PER ACRE.			Price per pound of butter.
		Wheat.	Corn.	Oats.	
		Bus.	*Bus.*	*Bus.*	*Pr. ct.*
Columbia.....$22.00	$11.70	17	30	26	15.2
Dane..... 31.00	18.33	17	37	34	15
Jefferson..... 46.00	16.00	20	50	38	17.5
Sheboygan ... 55.00	15.00	18½	49	40	16.2

WHAT MIGHT HAVE BEEN.

If Columbia county had received the same price for her butter than was obtained by Jefferson she would have been $26,400 better off. If her corn yield per acre had been as high as Sheboygan she would have had 945,953 bushels more corn, worth at a low estimate 30 cents per bushel or $284,785.90 in cash more than she received. If the yield of corn in Dane had been as great per acre as in Jefferson her farmers would have had 1,162,577 bushels more, worth $348,773.10, or enough extra money to have built jails enough to hold all the rascals and a fair percentage of the good men in southern Wisconsin. These contrasts could be continued without number and made more striking still. To-day the difference is far greater than when the census was taken. There is great depression in all of the great staple industries of the farm except the raising of certain grades of horses and dairying. There has never been a time in the history of the state when a pound of butter, a pound of cheese or a pound of milk could be produced so cheaply as now. There has been no marked or long continued depression in the prices of good dairy goods. The margin of profit is greater than ever before. Yet the great majority of Wisconsin farmers will not look at the business of dairying at all, or if they do by any chance they look at it cross-eyed. They say they do not wish to be tied to a cow; they prefer to tie to something which will tie a mortgage to them and then

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they can thank God they don't have to milk for their lawyers, will do that for them.

THE COW'S BLESSING TO MANKIND.

The State Dairymen's association has urged farmers to become dairymen because there is and has been money in the business. There is money in it because it is anything but an easy business, because it requires labor, because it requires skilled labor — the labor of thought; because it increases the fertility of the farm and the fertility of the mind, builds up business habits and practical, broad-minded judgments. The path of the cow has ever been over richer fields and closer to golden harvests. A hundred experiment stations, backed by the appropriations of six great nations, stand half baffled before the mysteries of her life and work. A degenerate modern motherhood turns over to her sustenance millions of the children of men. There has been tied to her by all the bonds of human interest the brains of science and the hands of art. She has given us the cheapest food to buy and the most profitable food to sell. No man should tie to her whose dignity suffers where learning ponders. The bugbear of over production stares the man in the face who is a living example of under production. He holds it up as a reason why he should not go into the business, or, being in, why he should go out. The truth is simply that there is an over production of inferior dairy products and a tremendous shortage of good ones. An ounce of poor butter is too much for any housewife; fifty pounds of good butter is not enough; we have 500,000 too many poor cows in this state and a shortage of over a million of good ones. Let misty theories of over production follow the end of the rainbow and let the Wisconsin farmer look for his bag of gold on the top of a milk can.

ASSISTANCE RENDERED BY SCIENCE.

The Dairymen's association has sought and welcomed help and knowledge from every quarter, from the man with one cow — from the man with a hundred, from the theories of Prof. Arnold, the practice of John Gould, the common

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sense and trained intellect of Prof. Robertson and from the agricultural department of our university as directed and controlled by Prof. Henry and his assistants. To Prof. Henry in particular we owe a debt of gratitude which cannot be paid. We can simply indorse upon it the record of our appreciation, our appreciation of modest but most effective labor, of cordial sympathy, of stiring enthusiasm, of conservative judgment and unquestioned courage. I am especially proud of the fact that the association which I am privileged to speak for here to-night has always had its windows open toward the university; that it has had the sense to understand the wisdom of the state in laying the foundations of science under the art of agriculture. I am proud of the fact that it has had none of the cheap prejudices of ignorance against the wisdom of thought, that it has in fact endeavored to blend the knowledge of farm and of laboratory into a white light which shall brighten and bless our Wisconsin farms.

WHAT THE ASSOCIATION HAS DONE.

In numerous conventions, by the publication and distribution of 130,000 daily reports, in spreading broadcast over the state the records of successful work of the best dairymen, in the work of inspection of factories, during the past year 500 having been visited by experts employed by the society—in the welding of dairy sentiment and knowledge, in binding together men having common business interests by the strong bonds of personal friendship—in stirring the spirit of emulation and giving profit, pride and comfort to the business of farming, this association has done its work, We recognize the value of similar work done in other lines by the societies here represented. We can clasp hands in this meeting and in every meeting, we can agree at least in this that there is no state better than Wisconsin, that while the Wisconsin farmer can improve he has already lifted himself to a point where he is attracting the attention of other states from Maine to Texas, that the farmer boys are beginning to find out that Wisconsin is good enough for them, and that the farmer girls are recognizing the fact that

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the Wisconsin boy is hard to beat. We can agree that we hate error and love knowledge, and that we will do what we can to breed among the farmers of this state intelligent judgment and self respect.

The President — Mr. Adams has just delivered an admirable address, but it is defective in one particular. He has left one thing out. He has praised the appearance of all the presidents in attendance save one, without stating who that one is. That leaves the rest of us in a rather doubtful position.

Mr. Adams — That was such a self-evident fact I thought it unnecessary.

The President — In the race the Short-horn is not to be left behind, and the President of the Short-horn Breeders' association will now address you, W. Jacobs, Jr.

Ladies and Gentlemen: — In accordance with the program for this evening, I appear before you as the representative of the Wisconsin Short-horn Breeders' association, to bid you welcome in its name. Inasmuch as this same program calls on me for an address later in the deliberations of this convention, when the association of which I am the president will undertake to furnish the entertainment and the instruction, I do not deem it in place that I should at this time attempt to speak to you at length.

We are assembled as agriculturists of this great state, and in that term "agriculturist" I include all breeders of live stock, for the avocations of the tiller of the soil and the stock-breeder are inseparable, to teach each other and in teaching learn. When we gather in these annual conventions, it is with the express understanding that all will give and take. Learn and let learn is a paraphrase which fits well the occasion. To this end it behooves us — and this is the suggestion which I let fall at this time — that we each shall, of the abundance of our experience and knowledge, give briefly, concisely and clearly. In my judgment these

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meetings are for the toilers who leave their work to attend them, rather than those who for the time being are honored with the position of presiding officers, and while custom, which is stronger than law, directs that addresses from presidents are the order of the day, I think I voice the sentiments of the Short-horn Breeders' association, when I invite you to attend the session of to-morrow afternoon with the understanding that it is your meeting and that the greatest freedom of expression will not only be allowed but is courted. It may not be inappropriate on this occasion to say a word in favor of the breed which I represent. And yet Short-horns do not need that some one should speak for them; they speak for themselves. The first of the improved breeds to be imported to this country, they have spread from state to state, until there is no commonwealth or territory in this union in which their name is not known, their worth appreciated and their services invoked in concentrating the farm-grown feeds upon which the agriculturist depends for his sustenance, so that they may reach the market in less bulk and do greater profit to the producer. Wherever they have been tried, they have abided a source of reward to the toiler, and great enrichers of the ground. No other breed can point to such a history. Others have been introduced and, from the ruling passion for the novel implanted in the human mind, have for a time run their course and in some places taken root, but their habitation is largely local, while the Short-horn is cosmopolitan. No breed has ever sold for such prices either at public or private sale, and this is an infalible index to their superlative and lasting excellence.

For over half a century they have led the march of improvement in the cattle stocks of this country. Other breeds may come and other breeds may go, but the noble race of "red, white and roans" goes on forever, maintaining a steady lead, whether in the show yard, the feeding lot or the market pens, in these respects the trials and experiences of generations have made this conclusion irresistible. We present to you to-night no new breed untried and unknown; the history of the improvement of the cattle of

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America is the history of the Short-horn, and greater praise than this cannot be uttered. It may be considered an act of temerity on my part that I should claim in this presence that in the Short-horn we have a general purpose cow. Now I trust that the advocates of the special purpose cow will not put on their war-paint, draw their tomahawks and prepare to execute a scalp dance over me for making this assertion. I am well aware that many of those present to-night hold that there is no such thing as a general purpose cow. "Sir," exclaimed the attorney to the incarcerated man, who had sought his counsel and stated his case, "they cannot put you in jail!" "But," retorted the prisoner, "I *am* in!" So it is in this instance; you say that there is no such thing as a general purpose cow, and we retort that we have them in our herds. We do not claim that the *greatest* excellence at the pail and at the feed-trough is found in combination in our favorites; that would be an untenable assumption. But that we have cows which can raise calves which will make early, prime beef, and that at the same time give milk enough to pay for their keep and in many instances more, we *do* claim, and have ample evidence to substantiate the claim.

But I did not set out to argue this or any other question. To-morrow afternoon I shall have the pleasure, as president of the Short-horn Breeders' association, of devoting a little attention to this and kindred subjects of interest to the raisers of cattle, and on behalf of the association which I represent, I extend a cordial invitation to you to be present at that time, assuring you that we will be ready to hear any words of dissent from our utterances you may see fit to say.

Again I welcome you to the opening session of our agricultural convention, and express the hope that our meeting will be the most profitable and interesting yet held.

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N. N. Palmer, Brodhead, President Jersey Cattle Club:
Mr. President, Ladies and Gentlemen:

The Jersey Cattle Breeders' Association for the last three years has been a little side show.

It is gratifying to know that the Jersey cow has gained prominence enough to entitle her representatives to a place in this convention. I am happy to say that during the last year of depression, the demand for Jerseys has been good. I never have had more inquiries nor more ready sales. The best representative animals have sold readily at good prices. As an indicator of this fact I will mention the auction sale of the Oakland herd, formerly owned by Valency E. Fuller, sold in New York, May last. Thirty-nine head were sold at an average of $600 a piece, and one of them sold for $2,300. I think it is admitted that no branch of farming at the present time pays so well as dairying. The amount of profit depends much upon the class of cows kept. Mr. Atwood, of Spring Grove, Green county, tells me that his whole herd of twenty-seven high grade Short-horn cows netted him $13 per cow, for the last year. He sent his milk to a cheese factory. This is in strong contrast with another herd of six grade Jerseys, owned a few miles from the above place, that has netted the owner $50 per cow, besides furnishing the family with milk, cream, 300 pounds of cheese and 360 pounds of butter. This would bring the profit up to $67 per cow, not to mention the skimmed milk. I do not think there is a well selected Jersey or grade Jersey herd of cows in the state that will not average 250 pounds of butter per cow, many of them will average 300 pounds and the butter will sell for an average price of 25 cents. This is $62 per cow or $1,240 for a herd of twenty cows, above Mr. Atwood's returns. Such difference is worth looking into. Then with full bloods the calves will amount to about as much more. Dr. C. B. Porter, of Viroqua, said recently at an institute at that place he found, on testing his cows, that his best cow was bringing him more profit than the fifteen poorest cows in his herd.

I spent about two months last summer, visiting friends in the eastern states, mostly farmers. The general opinion of

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the farmers seemed to be that nothing on the farm pays except dairying. I found a very strong prejudice in favor of Jerseys even among those who, eight years ago, had no kind words for them. Perhaps some one is thinking how shall I get these good cows? I would say, buy a few of the best you can find. If a part of them are registered Jerseys all the better, then you will be likely to take an interest in your cows and compare notes. But don't put all your money into cows. Save enough to buy the best bull you can find for sale, remembering that if you have a herd of twenty cows, your bull will have twenty times as much influence on your future herd as any one of your cows. Don't allow a few dollars in price to influence you to buy any thing not first class. A bull at $5 might and probably would be very dear, while another one at $100 would be very cheap. The cheapest bull I ever bought cost me many times the latter price. Don't buy anything short of a full blood, and to be sure on that point, be certain that he is registered. Then see that he is individually good, and has a good pedigree, having back of him a long, unbroken string of cows with records of fourteen pounds and over per week, and you need not hesitate to buy at what you may consider a large price. As an indication of the influence a good bull may exert, I will refer to the Jersey bull, Stoke Pogis 3rd. He has twenty-seven daughters with an average record of over twenty pounds of butter per week. No other breed of cattle has so many or so large butter records as the Jerseys. In the three volumes of Butter Tests of Jersey Cows, there are 1379 cows reported, with records of from fourteen pounds to forty-six pounds, twelve and one-half ounces of butter per week. Since the last volume was issued, there have been reported to the *Jersey Bulletin*, eighty-three cows with records of from fourteen pounds to thirty-one pounds nine ounces, making 1452 cows reported with records of fourteen pounds and above, of butter per week. A few of the cows reported in volume I. were a gain reported in volume II., having increased their first records so perhaps 1400 would not be much below the actual number of cows reported. In conclusion, Brother Jersey breeders, allow me to call your

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attention to the importance of testing your cows, and of never selling an animal that you do not have good reason to suppose will give satisfaction.

THE MORGAN HORSE.

The President: L. A. Squire, of Poynette, President of the Morgan Horse Breeders' Association, being absent on account of sickness, his son will read his paper. We will now listen to L. M. Squire, son of Dr. L. A. Squire.

Ladies and Gentlmen: In the absence of my father who has the fashionable disease, La Grippe, I have the honor to appear before you. He says: The mantle of honor to address you at the present time I think, could have fallen more appropriately and befittingly upon some other member of our society. But to be true to the instinct of that horse, our society honors, which is to face with grace and courage every problem of this life, I concluded that according to the usual custom requiring executive officers of all societies to deliver an annual address, I would try and entertain you a few moments.

Another year has passed. The great wheel of time has made another revolution, and the ratchet closing down into the slot of 1890, shuts out forever the record of the successes and failures of 1889. History claims the past with all its sadness and joy. Henceforth, for repair of past failures, for pledges of new triumphs, we farmers, young and old in common with all mankind, must look to the future.

HISTORY OF THE SOCIETY.

A year ago, at the annual meeting of Wisconsin farmers in this capitol building, a few Morgan horse men got together to talk over matters appertaining to their business as breeders of Morgan-blooded horses. In relating their personal observations the unanimous opinion was soon manifest that many people were dissatisfied with their present horses. In the far distant horse horizon there were to be

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seen small, dark clouds of popular discontent, accompanied by ominous flashes and suggestive sounds which plainly told us, "We have big bodies but not much horse." To make ready for this portending storm, these determined men, through the kindness of the Hon. H. C. Adams, superintendent of the building, who secured us a Legislative Committee room, proceeded to business which soon resulted in the organization of our association. Many during the convention, and many since have joined us, some of whom reside in adjoining states. The secretary and treasurer's report will show us all right financially. We have been treated very kindly and respectfully by all, and especially by the officers of the State Agricultural Society, to whom our thanks are due. I would recommend that a Registration book be kept for the registry of horses and mares having a certain amount of Morgan blood. The scale established should be strictly guarded by a Board of Censory.

The object of the society is to resuscitate and perpetuate the best road and family horse that ever trod American soil; the best all-around horse the world gives any history about; a horse, although neglected for awhile, today stands unrivalled in the annals of horse history for his usefulness to man.

As a carriage horse he has few equals. Possessing a kind disposition and equal temperament, a courage and willingness commensurate with his compact, muscular and bony build, and elegance of style and beauty of action, rivalled only by that of his Arabian ancestors, make him one of the most desirable roadsters this country has ever produced. His powers of endurance are wonderful. He seems to possess the most perfect combination of nerve, muscle and bone. This accounts for the superior ease with which he will in comparison with other horses, cover the longest distance in the shortest time. Every Vermonter here will agree with that noted New England divine, Adirondack Murray, when he says, "Yes, the Morgans are the very embodiment of every quality characteristic, which is called for in a roadster. In them the poetry of equine nature and motion is visibly expressed and set to music. In action

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they make a heroic appearance, and their hoofs beat melody from the path. In them is dash and shine and rythm. They strike the road with the same nervous stroke with which the pigeon in full career strikes the air, and like that tense winged courier of the sky, they laugh at hills, and mount them with a dash of spirited flight."

AS A SADDLE-HORSE

he stands in the front rank. This, from his conformation could not well be otherwise. Being low down, with a short strong back, deep and roomy chest, strong loins, long hip, strong oblique shoulders, neck short and quite erect, he is naturally fitted to carry with ease and advantage, heavy weights on his back. It is in this capacity that the Morgan horse has played so important a part in the destiny of his native land. It has been said that Vermont, the home of the Morgans, furnished more horses for military purposes in the late rebellion than any other state of its size. Why was this? Why did every military officer seek for a Morgan horse? It was because he carried his rider more easily than any other horse; more miles in twenty-four hours without rations; shared his rider's hardship, lying down at night if necessary to make a pillow for his master's head, springing to his feet at the bugle call, and ever ready and eager for the fray. Officers of the army tell me that the Morgan horse was more courageous and level-headed in a fight than any other horse in the service, since he stood right up to his work, never flinched, and sometimes was fairly riddled with bullets ere falling.

AS A FARM AND SADDLE HORSE

he is said to be the stoutest animal of his size in the world. He is a short stepper, hence his weight is on the ground more of the time. Coupling his intelligence and willingness with his strength, explains how useful as a farm and general purpose horse he has always been to the tillers of Green Mountain soil. Considering his pluck and hardiness, together with his less cost of keeping, it is a question whether he is outrivalled in value to-day by his huge imported com-

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petitors. Certain is it that by intelligent outcrossing for the sole purpose of increasing his size, yet preserving his native strength and soundness, he will unquestionably net you a more valuable animal because of his great abilities in other directions.

AS TO SPEED AND PREPOTENCY

the Morgan family stands the equal to any of the other three great American families of flyers, viz., Hambletonian, Clay or thoroughbred proper. He shares in a great measure the blood-lines in almost all the great trotting performers of the day. The great George Wilkes, grandsire of Axtell, hence one of the greatest sires of speed of the present age, has a very strong infusion of Morgan blood on the side of his dam. In fact, from the time of Justin Morgan, the great progenitor of the race, whose various abilities as trotter, runner or walker made him "King of the Turf" in his day, he seems ever since to have inherited with all his other good qualities, a peculiar tendency to "go." With this tendency there existed also, a power of endurance equalled only by his purely bred Anglo-Arabian running brother. This has been repeatedly demonstrated, but I have time only to mention a few cardinal instances. Among them is the remarkable feat of Fanny Jenks, who in October, 1844, nearly a half century ago, at Centerville, L. I., trotted ten miles before a sulky carrying 145 pounds, in 29m. 59s. This fact is enhanced by her great race against time the following May, when she won $500 by trotting 100 miles in less than ten hours, the actual time being 9h. 42m. 57s.

Let me mention also, not only Ethan Allen's memorable victory over Dexter, but his remarkable performance the 10th day of May, 1853, on Long Island, when he, a three-year-old, beat Rose, of Washington, a four-year-old, then deemed the fastest mare of her age, in three straight heats of 2:42, 2:39, 2:36, thus making him the Axtell of his day. We must not omit also Sherman Black Hawk's victory on ice, February 27, 1852, over Flying Morgan, time 2:42, on Lake Champlain, near Plattsburgh, a name which brings

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to mind that same Yankee pluck and grit which thirty-eight years before had put to shameful flight the British veterans who had conquered Napoleon. Besides Black Hawk, son of Sherman Morgan, and one of the surest getters of trotters the world has ever seen, being the sire of Ethan Allen, who sired Daniel Lambest (34 in 2:30 list) and Ethan Allen, Jr. (8 in 2:30 list), we have also the celebrated Gifford Morgans, descended from Justin's son, Woodbury Morgan. This family was made illustrious by Morgan Eagle, grandsire of Magna Charta, and by Barnard Morgan, grandsire of Dorsey's Golddust, founder of the famous Golddust family of trotters. But besides the sons of Sherman and Woodbury Morgan, we must not forget the noted descendants of Justin Morgan's great son Bulrush, who is now represented by the Faronaughts and Winthrop Morrills, coming in direct line from young Bulrush, Jensen and Old Morrill. Fine inbred representatives, typical respectively of the Gifford and Morgan families can be found now in northern Illinois, particularly in the locality of Dundee, Kane county, while in southern Wisconsin, particularly in Dane and Columbia counties, are to be found the beautiful Sherman and Black Hawk type of Morgans. Remembering these points taken, together with the fact that nearly half of the new 2:30 performers of 1888 were Morgan blooded, also together with the testimony of Gen. Withers, who finds over 500 Morgan-bred 2:30 performers, we see the explanation for the world-renowned records of Belle Hamlin, 2:13¾; Axtell, 2:12; Guy, 2:10¾; Johnston, the pacer, 2:6¼; H. B. Winship (with running mate), 2:6; Westmont (ditto), 2:01¾.

As to prepotency this record is an ample demonstration along the line of speed, but the transmitting power is not alone confined to that of getting speed. The form, size, color, gait, disposition, constitution, longevity, etc., are marked traits which crop out, element after element, in one form or another, sooner or later. It is there. You can put your finger on it. Dilute it homeopathically if you please, even to the tooth dilution, still it is Morgan. As the record shows all prepotent sires are not Morgan, but nearly all Morgan sires are prepotent.

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HISTORY OF JUSTIN MORGAN.

I cannot close without giving you a history of Justin Morgan, a horse who has rendered a country school-master's name immortal among all lovers of good horse flesh. Foaled at Springfield, Mass., in 1793, he obeyed the laws of emigration from the Old Bay state to the rising Green Mountain state, hence we find him two years later in the town of Randolph, Vt., where, from local contests at "pulling bees," walking, trotting and running matches, his celebrity spread gradually from the neighborhood to adjoining towns, counties, and finally around the states and Canada. A year later his time came which was to demonstrate his superiority over his equine brethren once for all. It was a small affair you will say as the purse was only $50, but history delights in exceptions. It sometimes prefers small events to herald great epochs. Certain it was that in this circumstance, related to me when a boy by parties having witnessed the event, the noted Long Island racer, Sweepstakes, and later on the New York runner, Silver Tail, had no business whatever trying to teach Justin how to run. Though only a three-year-old he beat them easily. This victory then accounts for the merit of his progeny.

The history of his ancestors is not unmixed with romance. The traditionary facts are sufficient, however, to explain the unprecedented career of Justin and his sons. "Blood tells," or men would not bet their money in more ways than one when they pay their thousands for weanling colts. The sire of Justin Morgan was True Briton, owned by Gen. De-Lancey, who commanded a remnant of King George's whipped red-coats on Long Island, and who was the proud possessor of a fine stable of imported English runners, with pedigrees dating back to Darbey's and Godolphin's Arabians which were imported into England about the time that Jamestown, Va., was settled. One night, bent on a hilarious time on the Jersey side of the river, the general (accidentally no doubt) lost his gallant revolutionary charger, and where was the "Yank" who would lift a finger to restore property to him who had fought for monarchial enslavement of America?

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Ladies and gentlemen, the Morgan horse has had a Rip Van Winkle sleep since the rebellion, but his present prominent position is due to true merit. His career reminds me of a circumstance that once happened in "Oildum." Nellie Johnson, daughter of a sturdy Pennsylvania farmer, a good sensible girl, with a rustic beauty, a pleasing, unobtrusive manner, and of ordinary education and accomplishments commensurated with economical living, was in the habit of visiting occassionally her aristocratic Pittsburgh cousin, Nettie Willard. She was always met by Bridget at the depot, and Aunt Margaret, while Nettie had fashionable company in the parlor, always kindly entertained her ——— in the kitchen.

But one day a 500 barrel "gusher" struck, or rather burst forth from farmer Johnson's stony heap of earth, called a farm. In a few days another and still another well was discovered, and lo, what do we see Miss Nettie and her rich associates immediately doing? "Why, what a dear, sweet, interesting, chawming cweature that Miss Nellie Johnson is! Just think, her sublime papa is more than a millionaire, and dear, delightful Nellie is coming to town to spend a $1,000 for Xmas presents, oh dear!" Nettie meets her this time at the train. Nettie makes a party in honor of her "country cousin," who now becomes the belle of the season.

So it is with the Morgan horse. He is now invited to all the "blooded parties" since he got the stuff to back him; and who knows but that to the swift, gliding, untiring trot of the Morgan, combined with that blood which from the stud of Mahomet to the present time has been trained to run, we shall not in the future owe the two-minute horse!

DR. L. A. SQUIRE,
Pres. Wis. Morgan Horse Breeders' Soc.,
Poynette, Wis., February 4, 1890.

The President—You will now listen to an address by one well known to you all. I take great pleasure in introducing Hon. W. D. Hoard, governor of Wisconsin:

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GOV. HOARD'S ADDRESS.

Mr. President, Ladies and Gentlemen — An apology is due me. It is not very often that I claim one, but I certainly feel inclined to assert my apologetic rights to-night. I do not know whether I am to blame or not, but my first intimation that I was to appear before you was a short time before supper. Now, knowing your appetite for knowledge, your capacity for its reception, is it at all reasonable to suppose that on so short a notice any man can dish up to you anything worth hearing? No. I can only stand here and utter, maybe, a few platitudes, a few thoughts, naturally incomplete. I have been considerably interested in listening to these laudations of different breeds, a matter concerning which I am impelled to say something. The Shorthorns, the Jerseys, the Morgan horses, and all of their glories have been recited to you. It is a notable fact — and one worthy of a great deal of consideration — that Wisconsin has room for all the best families of animals and men there are in the United States. It is a wonderful thing, my friends, when we consider that little island of England, small in territory but wonderful in achievement in regard to animal husbandry, that out of its borders has issued so many breeds of cattle, horses, sheep and hogs. It is almost a wonder to think where they could find sufficient territory for their development. It is due to that very close and compact intelligence that the Englishman exercises on these questions, and I am busy with the thought to-night that if we wish to organize Wisconsin progressively in this direction we must commence some practical work, more in the line of our English progenitors. We come here year after year, and what particular good does there come out of it except the little profit that you each gain from contact with the other? How much does it affect the great state of Wisconsin? Two or three hundred farmers more progressive than their neighbors break out and come to Madison and listen to valuable thoughts, go home and what does it amount to? What have they done to impress those thoughts, by any practical effort

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upon their neighbors? Is there not some practical way whereby these meetings can be made of more use than they are now? I submit it to your consideration. Is there not some practical way where these meetings may be considered the head of a number of auxiliary societies organized throughout our state, where the average farmer may be reached? I think myself that our Farmers' Institutes, our dairyman's conventions, our horticultural conventions and our State Agricultural society meetings have been firing off big guns with an idea that they can hit the small sparrows in the general flock. Mohamet prophesied that the mountain would come to him, but he found it a vain prophecy, and with a practical wisdom that I have always admired in Mohamet, he said: "I will go to the mountain. If the mountain will not come to me, I will go to the mountain." Now I think that this society should commence at this very meeting to establish committees throughout the state which shall have for their purpose the organization of farmers' clubs. Not one farmer in ten thousand comes up here to attend these meetings. The result is, that the great outcome of the state, the broad comprehensive work of the state, is not affected as it should be. Can we not do something when here that shall reach out and take hold of this great force of men embraced in the farming community? The institutes are doing a noble work, but they cannot reach all. The institutes are few and far between. One thing we need in this state is, a larger, broader and more comprehensive knowledge of animal farming. The fiat has gone forth. God has uttered it himself, that Wisconsin must turn her attention to animal farming if she would maintain her supremacy. It is useless for us to expect longer that we can become a profitable grain growing state—that is, for exporting. What shall we do? It seems to me inevitable that we should turn our attention to animal husbandry. This does not mean all for dairy, nor all for beef, nor all for big horses, but that Wisconsin should become just as famous as Kentucky is to-day. This would be a matter of very easy accomplishment if we were willing to act together. I noticed one peculiar thing in Kentucky that is not true in

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Wisconsin. Go down to Kentucky and ask anyone of those breeders of fine animals for information as to where you can purchase a horse of a certain breed. Suppose you are after a trotting bred coach horse and you go to him and ask him if he can sell you such a horse. You will immediately notice a community of interest that is admirable. Maybe he will say: "I do not think I have just what will suit you, but I have a neighbor over here who has just the kind of horses you want, a Harrison Chief, for instance, large, strong, a thoroughbred trotting coach horse." You find a oneness of sentiment between breeders prevailing in Kentucky that is admirable. It has made Kentucky the Mecca for all the animal breeders in the United States, and in many particulars, in Europe. The farmers have agreed to banish all feeling of selfishness and all work together for the promotion of their community and their state. That is what all farmers ought to do here and everywhere banish greed and work together for the protection of their section and our state.

We need a much larger infusion of understanding concerning the principles of breeding among our common farmers. Our institutes are at work this winter in a very systematic manner, holding discussions on this topic in the different counties in the state. You will find all over the state, a large portion of our farmers who have strange opinions about breeding. I remember a few years ago I attended a meeting where this question was under discussion. A man arose and said: "I tell you, you may talk as you will, the question to consider in your breeding is feed. I tell you breed has nothing to do with it. The breed is in the corn crib." This was one of those half truths so easy to utter and so hard to refute, and through that whole audience composed of practical farmers, there spread a smile and nod of assent. It pained me because I knew that it was a complete bar to a clear understanding of the road to success, and I arose and said to the man: "Evidently your faith is well founded. Are you willing to be questioned about it?" "Yes, sir." "Well," I said, "by your statement I am to understand this, am I not, that you don't be-

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lieve in breeding but everything in the feed?" "That is it, sir," said he. "That's my sentiments." "Well, now, I think I understand you clearly. Do you remember the hog we had here in Wisconsin about forty years ago, those long razor back hogs?" "Yes," he said, "I remember him." "Now will you give me your recipe for feeding that hog so as to make a Berkshire or Poland China of him? Will you give me your recipe for changing a Jersey cow from a Jersey to a Short-horn, and *vice versa?* Will you give me your recipe for feeding a race horse so as to make a draft horse and feeding a draft horse to a race horse?" At once there spread over the audience a returning smile of good sense, and they began to see the fallacy of such doctrines. The old man answered: "Well, you may talk as you are a mind to. I believe just what I said." Now, he had a half truth. I would state clearly, that first we need breed and then we need feed, that both must go hand in hand with each other. There was an entirely new idea conveyed to those farmers in this discussion. My friends, we need in Wisconsin the organization of our farmers into clubs so that we can have these discussions. Can't the state society do something in this line? I wish at this meeting that a committee of organization throughout the state could be established whose business shall be to promote, during the coming year, the organization of farmers' clubs, and let us have a head center of it somewhere, and do something for the promotion of intelligence on this line.

A gentlemen was telling me about attending a North Carolina fair a few years ago. He said he had some pens of fine Berkshire hogs and noticed every man went right past his Berkshire hogs to look at the razor backed, long snouted hogs. He said to one farmer: "What is the reason you pay no attention to my hogs?" "Well, you see, sah, I don't think they is the hogs we uns want here. We want a hog that will out run a darkey, if he can't out run a darkey he is no white man's hog." That was "natural selection" according to the interests of the North Carolina farmer. Unless he had that kind of a hog he would not own him a great while. Well, we do not want that here,

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but we do need a wide infusion of intelligence. You know we have had those hogs. I drop these suggestions with the hope that something may be done.

I believe in Wisconsin we need to take hold of the question of agricultural education and take hold of it practically. Getting together is a very pleasant thing, we have the social contact and the influence and thought we get out of it, and that is all a very good and proper proceeding. I believe that from our State Agricultural society there should proceed a more practical solution of this problem. I think we ought to have something that is solid and strong throughout our state. We have the machinery in a general sense, now can't we make it special and particular? There is where we need to operate this great force of our farmers. One hundred and seventy-five thousand of them are in this state; how much are they being reached by this very influence now?

A few weeks ago I was in Canada and spent over ten days attending conventions. My friends, I was wonderfully impressed with the fact that when it comes to the production of mutton the Canadian farmer is far ahead of us. If any farmer wants to convince himself of the difference between an average piece of Wisconsin mutton and the Canadian mutton, let him cross the border and stop at the smallest hotel in Canada and he will see what effort and intelligence has done in this particular for the Canadian farmer. Wisconsin has the very finest climate and grass and every thing to her hand that she needs and the market is calling for fine mutton. Our farmers need agitation. Why don't we disperse and spread this knowledge among our neighbors? The spread of this knowledge is necessary, and without it we shall never be able to take our stand as a state in the position we were intended to occupy. God has done very much for Wisconsin, the soil is good, the climate salubrious. When this knowledge of breeding is well spread the question of the position of Wisconsin among the animal breeding states is assured, not only in the United States, but on the continent. All that is necessary is some practical, substantial effort on the part of the farmers. We

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ought to organize our farmers into working societies. We are too apt to sow the seed and never stop to inquire whether it has been well covered or not. It is sown by the wayside. There has been a wonderful growth in our state. You heard some statistics read here to-night by Mr. Adams which are in themselves very suggestive of the value of organized effort. Take the dairy industry of this state. We have over $125,000,000, or thereabouts, of capital invested in the production of milk, and the cows of Wisconsin are annually earning $20,000,000 to $25,000,000.

What has brought about a change so marked and strong? It has been done by organization. As long as the individual farmer was left to breed and feed and milk his cows without organization there was no progress. In 1870 there were two cheese factories in Jefferson county and the total dairy production of that county amounted to about $200,000 all told annually. To-day the cows of Jefferson county earn $1,250,000 every year. What has done it? The potent fact that in dairying it became necessary to organize the farmer and put him in complete interest with his fellow. It has had a wonderful result, and when we work out more completely this system of organization we believe there is a great advantage in it for our farmers, that is why I believe our farmers should be made to see it. Where farmers combine and work together, whether in dairying or anything else, it always results for their own benefit. It is a matter of sound policy for the farmers of any state to combine and work together for the common good; what benefits one benefits all. Have these organizations purely agricultural; do not mix politics up with them. I am not much of a believer in agricultural politics. Wisconsin affords the rights of citizenship to her people. She never asks a man as to what he does with his hands, but rather what his bearing is toward the general good of the whole. The basis of political action is citizenship, and not the trade or vocation that one follows for a living. I believe the organization of our farmers, for purely agricultural purposes, would greatly benefit the state at large by aiding in the dissemination of knowledge. The more intelligent the farmer is, as a

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farmer, the more valuable does he become to general society.

In regard to the butter industry let me give you a comparison of facts. Mr. Adams spoke of certain of these facts drawn from the census of 1885. Right in Jefferson county is an illustration of what I want to say. The town of Watertown is only sixteen miles or thereabouts from Koshkonong. Take these two towns right in one county and see the wonderful difference in the condition of the farmers brought about by a little practical organization and dairy education. In 1885 Watertown produced 83,000 pounds of butter. It sold for an average price of 12 cents and 8 mills per pound. A few miles farther south Koshkonong produced 124,000 pounds of butter, which sold for 21 cents and 8 mills per pound. A difference of 9 cents a pound between the two. Now, had the farmers of Watertown applied the knowledge which lay at their door; had they made that butter as well as they might have made it, it would have sold for $7,420 more than they got. An amount double the taxes they paid that year, or a loss of $3.71 to every man, woman and child in the town. That is just what the farmers of Watertown lost by paying no attention to this useful matter of knowledge and understanding. So I will leave this question here, my friends, with the earnest injunction that this meeting shall not be like its predecessors and simply gather the farmers together without providing for practical results to follow.

President—We will now listen to an address by Mr. J. J. Sutton, of Columbus, Wisconsin, on "Experience and Advice to Brother Farmers."

When I received an invitation to address you on this occasion I was requested to refrain from the discussion of the subjects of Religion, Tariffs, Politics and Railroads, and hence in the brief time that I shall occupy your attention, I shall be compelled to deal very largely in generalities.

Uppermost in the mind of every American citizen is the thought of a home. That which moves men to active exer-

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tion and endeavor is the thought that they, in the future will be the possessor of a place that they can call home.

With the object of obtaining a home, or the means wherewith to obtain one in view, man makes long and dangerous voyages to foreign shores. With this object in view, thousands of men who started to cross the western plains in '49 and '50, to visit the golden shores of the Pacific in search of wealth, died by the way and to-day their bones lie bleaching in the sun.

It required vigor of manhood, strength of charrcter, fortitude and perseverance on the part of those who in the early days of the settlement of the now state of Wisconsin, left comfortable homes, fireside relatives and friends in the eastern states and journeyed westward, by means of the transportation that was then to be had, requiring money, weeks and sometimes months to make a journey that can be made to-day in twenty-four hours or even less.

Men such as I have described (and I think I see many of them before me), know, and they and such as they only know, what the privations to be encountered in frontier life means or meant in the earlier days of the settlement of our state.

Many of us came here before there were villages or cities. Grist mills and stores were very few and far between. The trail of the Indian hunter was the only highway.

School-houses and churches there were none.

The first thing that engaged the attention of the early settler was the erection of a shelter for himself, or for himself and family, many times consisting of a house built of logs, the earth for a door and sometimes marsh hay only for a roof.

The next subject that engaged his attention was, the organization of a school district and the erection of a school house, which was often constructed of logs, with slabs for a roof and seat made of the same material, holes were bored in one of the logs, pegs driven in and a board placed thereon for a desk.

In those days people could fully appreciate the sentiment of the poet, when he wrote:

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This world is not a thing of dress,
Of splendor, wealth or classic lore,
Would that these trappings we loved less
And clung to honest worth the more.

Though pride may spurn the toiling crowd,
The tattered garb, the crownless hat
Yet God and nature say aloud,
The man is none the worse for that.

In school houses of this character, many a man obtained the rudiments of an education that helped to prepare him to discharge the important duties that devolved upon him in after life.

Many of our greatest statesmen have been recruited from the ranks of men whose early training was under circumstances such as I have here described.

After the school house comes the church, the school house having been utilized for church purposes until the erection of the church.

In those pioneer days, good will and fraternal feeling among the early settlers was well nigh universal. Neighbors ten miles apart made a pretty closely settled neighborhood.

We were then but laying the foundation and the corner stone of the future prosperity of our state.

To-day we are one of the grandest commonwealths of our nation.

One does not have to travel far in any direction to observe the prosperity of our people, and the blessings that have been showered upon them with a lavish hand.

If he goes through the farming districts, he beholds beautiful and well cultivated fields. Magnificent farm houses have long since taken the place of the log hut, commodious barns the place of straw sheds that once sheltered the live stock from the storm.

The old wooden carts Linchpin wagons have been replaced by the modern style of lumber wagon, and the ox team by a magnificent span of dapple grey Percheron horses, whose sire was imported direct from France.

Men who once tramped to town on foot, now ride in cov-

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ered carriages and hold the reins behind a pair of Hambeltonians that can easily cover a mile in 2:40, and when the old man or his sons give their pedigree, it has a tendency to delight the ear of a horseman.

School houses solid and substantial, with every convenience for the education of the youth of our state, have long since taken the place of the ones I have to you described.

Magnificent churches have been erected in the rural districts whose pulpits are filled by eminent divines, where the people congregate to listen to lessons of righteousness, the tendency thereof being to soften the asperities of men.

The conditions have been so favorable for the development of our agricultural resources that we are to-day, on account of the productiveness of our soil, the intelligence and enterprise of our farmers, fast taking rank as the first and foremost among the agricultural states of the Union.

We were the first to organize a system of farmers' institutes to work in conjunction with our state agricultural society, which has no doubt helped largely to bring about the grand results that always follow a well organized and well managed state agricultural society.

Ere long we may expect to see every state in the union have a well organized system of Farmers' Institutes, modelled after the plan adopted in this state, the object of which shall be to give general information to the people on farm topics.

In order to fill a long felt want, I would suggest a new department be added to institute work, with the object in view of furnishing a means, whereby a farmer can readily detect "A patent-right Shark," before he gets the farmers note for a large amount of a deed of his farm.

A society that has done more in my opinion to educate, enlighten and elevate the agricultural classes of our state than all other causes in recent years, is known as the grange, a society to which farmers, their wives, sons and daughters only were eligible to membership.

Before the advent of the Grange among our farmers, very few of them knew or had any means of knowing, what the

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various articles they made daily use of, cost for their production or manufacture, and they were necessarily obliged to investigate and see where they could buy the cheapest, and in case of a combination of those who were engaged in trade, there was only one price and the buyer had no means whatever of knowing whether the article was cheap or dear. But through the instrumentality of the Grange, the farmer soon learned what it cost to manufacture a plow or other agricultural instrument, and by adding thereto the cost of transportation and other expenses of putting the article on the market, he could figure very closely what he ought to pay the dealer for his wares, and if the dealer refused to take the price offered by the farmer, the result was the merchant kept his goods and the farmer sent direct to the factory and bought his plow or other article, and thereby dispensed entirely with the services of middleman.

The result was the buyer got his goods at a much less price than he had previously paid for them. He paid cash and in many instances avoided going in debt (which should be studiously avoided by every farmer as far as possible). The manufacturer got his money for his goods and could well afford to sell cheaper than he could under the credit system, and the result has been beneficial to all parties.

The Grange has been a great educator of the agricultural classes. Before the Grange was organized among our farmers, the price list of the manufacturer or wholesale merchant, to him who was uninitiated into its mysteries was but a sealed book. It required a key giving the discounts before it could be understood.

The binder that cost the farmer $300 a few years ago, can now be bought for $100.

The plow that cost $20 to $25, can now be bought for $10.

The Grange was practically the out-growth of necessity. Combinations and trusts kept every article the farmer consumed at exorbitantly high prices, while what he produced must be sold for a very low price which seemed to be ever getting lower and hence it is, that of necessity the farmer and the manufacturer are coming into closer relations with each other, which must in the end be beneficial to both.

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It is a well-known fact that a vigorous intellect requires a strong and vigorous physical organism, in order that it may attain to the highest degree of development.

It requires cultured brains to bring about the greatest results attainable on the farm, and ideas grow.

A man must have practical experience as well as the experience of those that farmed before he did, in order to bring about the grand results that many of those who till the soil hope to accomplish.

Henry Ward Beecher once said: "Man's chief poverty is his head."

It is not so much the fertilizer itself as to know how and when to apply it to bring about the best possible results.

The material wealth of our state is of such vast proportions that it is with difficulty we can comprehend our own resources.

From our immense forests of pine and hard wood, great cities are being built on the western plains.

There is iron ore within our borders in sufficient quantities to supply the furnaces of the world.

The ore from our copper mines is of wonderful richness and is produced in great abundance.

We have lead mines whose treasures seem to be almost inexhaustible, and the streets of great cities are being paved with blocks of granite taken from the quarries within our state.

The health giving properties of the mineral water from the spring of the state of Wisconsin are known and appreciated the world over.

Our common school system is the bulwark of our republic. It is the bed rock upon which the stability of our government rests, and the presence of the common school should be to teach the English language to those who attend the same.

And our laws should be so framed, that foreigners must become Americanized and not Americans foreignized.

Monumental is the story,
Right is reached by him who tries,
Theirs at last shall be the glory,
Who works no compromise.

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We have established our Agricultural society upon what seems to be a solid foundation. We know we have demonstrated tothe world that we can conduct a state fair successfully in the state of Wisconsin without the establishment of a lager beer garden in connection with it, and without permitting licensed saloons on the fair grounds.

And there is no good reason why the agricultural classes should be in sympathy with a traffic that damns everything that it touches, and curses everything that it comes in contact with.

A business that ruins men, beggars children and breaks women's hearts.

What we need in the near future is a permanent location where suitable buildings and fixtures may be erected, where our state fairs can be held, that in the future as in the past these annual meetings may be a credit to our people and our state.

I am of opinion that the metropolis of our state is the proper place to hold the annual meetings of cur State Agricultural society. And I have no doubt that the next legislature, when it convenes, will make a suitable appropriation for the purpose of purchasing the necessary amount of real estate in the city of Milwaukee, and for the erection of suitable and permanent buildings thereon that shall at least be sufficient to shelter the Jersey cows and the Berkshire pigs.

The enterprise and public spirit of the citizens of the city of Milwaukee alone is sufficient guarantee of success if the state fair is held in that city. The means of transportation in reaching that point, the hotel accomodations after you get there, and people enough to turn out and swell the gate receipts in case of an emergency, all these things tend to convince me thatMilwaukee is the proper and only place to locate the state fair.

I think the plan of paying judges who are residents of our own state, for passing upon the relative merits of articles exhibited at our state fair ought never to have been inaugurated and ought to at once be discontinued.

There has been no difficulty in finding those who would

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accept office under the management of our State Agricultural society. Neither has there been any difficulty in finding them to serve our state when elected or appointed to office.

The small salary of the state treasurer has been accepted without reluctance and the full amount thereof drawn from the state.

But when it comes to filling offices of public trust under the general government of the United States, there has been some difficulty of late in finding men who were willing to make the sacrifice. A case has been reported where the chief executive of the nation found it necessary to write a supplicating letter to a man in Oshkosh, begging him to accept a mission to a foreign court, coupled with the regret that the salary was so small, only $3,000 and fees, another case of the office seeking the man.

But this may not be so bad as at first reported, which I will illustrate by telling a story: A man went west, and in a runaway accident, hurt his leg, three ribs and his neck broken. The sad news was at once telegraphed to his wife. Later there came a telegram saying the accident was not so bad as at first supposed, the man's ribs were not broken.

Moved that a committe of three be appointed by the chair to which all resolutions shall be referred when presented. Motion seconded and carried.

President — This closes the exercises for the evening and the convention will stand adjourned until 9 o'clock to-morrow morning.

Wednesday, February 5, 1890, 9 A. M.

President Mitchell — The chair will name as the committee on Resolutions, under motion of last evening, Messrs. Pratt, Arnold and Beaumont.

We will depart somewhat from the printed program this morning. Mr. Herrick has a paper on roads and road making which we will listen to if he will be kind enough to read it. The chair will state that after the reading of any

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address or paper that the same will be open for discussion for ten or fifteen minutes, and the gentlemen delivering these addresses or papers, I have no doubt, will answer any question you may ask them.

Mr. Herrick — Mr. President, Ladies and Gentlemen: I will not detain you but a few minutes. I have but a short paper on our country roads. I wrote this paper thinking that this subject was a subject that would interest the farmers a great deal for the reason that we have had no papers in our institutes for the last few years, and in our state conventions they are hardly ever mentioned. It seemed to me that there is no subject that more nearly concerns us than this particular road business. It is a fact that we can scarcely travel over many of our roads, especially in the winter when we have snow.

[Secretary regrets inability to secure copy of Mr. Herrick's paper.]

President — The paper is open for discussion.

Mr. Broughton — Mr. Chairman, if that paper means anything it means higher taxation to have better roads. Now if we are to have the Roman roads or adopt the French system in this state it means very much higher taxation, immensely so. When we are satisfied, the most of us farmers, that the taxation is twice too high and as long as the railroads do the most of our hauling we do not need so good roads as we would if there were no railroads. This idea of making roads so as to have them pleasant for buggy riding and for village folks to travel around the country with their buggies is a preposterous idea to expect of the farmers. They can't very well with safety to their incomes. If we are to have Roman roads we must have Roman taxation and pay our taxes in kind, grain, etc., and not pay it in money. The idea that we must employ an engineer or some college man to take charge of the roads and use machinery that somebody has to sell is rather against us, and the reason that road making is not talked of in institutes is because the farmers are not very much interested in these subjects so that it won't do to advocate any special manner of road building. There is an influence behind this that

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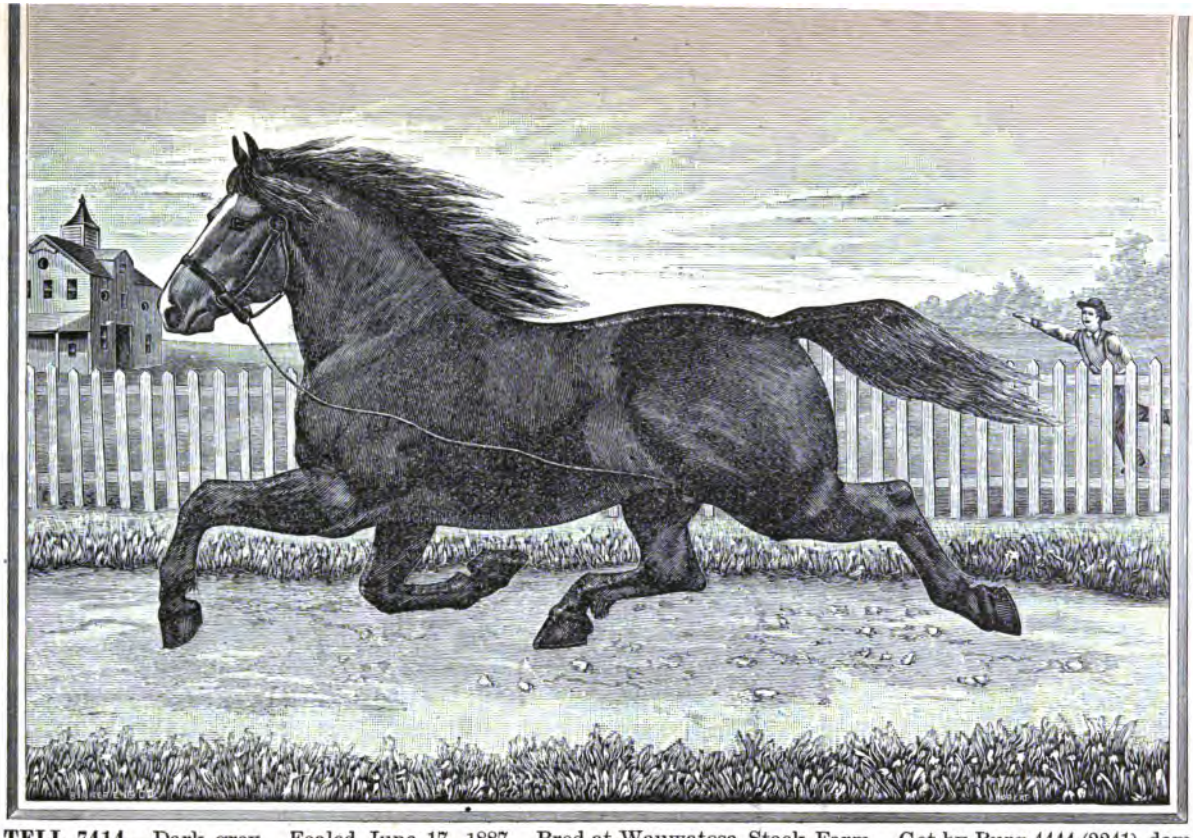

TELL 7414.—Dark grey. Foaled June 17, 1887. Bred at Wauwatosa Stock Farm. Got by Burg 4444 (2241) dam Chaloupe 4434 (4298), by Cheri (4137). 2nd dam Mouvette, belonging to M. Challier. Burg 4444 (2241) by Rochambeau (1382) out of Trompettee, belonging to M. Rigot. Rochambeau (1382) by Brilliant 1899 (756) out of Cocotte, by Coco 11 (714). Coco 11 (714), by Brilliant 1899 (756) out of Rosette by Mina, belonging to the French government. Coco 11 (714) by Vieux-Chaslin (713) out of La Grise by Vieux-Pierre (883). Vieux-Chaslin (713) by Coco (712) out of Poule by Sandi. Coco (712) by Mignon (715) out of Pauline by Vieux-Coco. Mignon (715) by Jean-le-Blanc (739). Cheri (4137) by Bijou, belonging to M. Fardouet, out of Biche, belonging to M. Debray.

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causes the roads to be in this condition. We cannot expect to have roads as in France where they have been making roads for 2000 years. If the village folks want to have better roads they should pay extra taxes to support them.

They are very willing to give this advice to farmers. The overseers may be appointed differently, but as far as I am concerned where I reside the roads are good enough for all practical purposes.

Mr. H. Briggs, Elkhorn — Mr. President, I must agree with this gentleman. I have had the honor of being path master once or twice, and I think if one-third the amount of taxes was put in the road instead of the farmer working out the road tax, it would be better. The farmers could a great deal easier pay the money than they can spare the time from their work to work out their tax.

Mr. Ezra Goodrich — The little town of Milton, in Rock county, has had some experience in this road building. The roads have been called to our notice particularly at this time. Every farmer that has come to this convention to-day, who lived a few miles from the railroad, knows what it is to travel over muddy, slushy roads to get to the depot. In the town of Milton we have, for the last fifty years, I have lived there over fifty years, been working the roads under a path master, and Mr. Herrick's paper clearly represents the way we worked them. Sitting on the fences and under the shade of the trees, anything to pass away time. Two or three years ago the roads of Milton were not three rods wide. Some of us looked into the question and found that they had not the right to narrow the roads. They employed a surveyor to survey the roads, and the result was they found there was 126 encroachments upon the public highways in the town of Milton. They served notices upon those persons to remove their encroachments so as to give the full width of the highway. These encroachments represent about thirty feet. In one instance the fences sitting in the very middle of the road. The town of Milton, in the last few years, has put one mill of taxes in the roads. That money has been found to do five times the

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amount of good as was done with practically two mills on the dollar as done by the path master. To-day the town of Milton has fifteen miles of gravel road, upon which a man can travel any time of the year without his wagon going into the mud up to the hub. I believe the public character of the public highways indicate more clearly than any other one thing the height of civilization of which the country has attained. I have a road machine, and one day, with two pair of horses and two men, we graded eighty rods of road in A 1 shape, a good grade as has been described by the man who read the article here to-day. Whereas in the old path master system they would have hardly have worked twenty rods. A road made with that road machinery is perfectly smooth and straight and passible at all times. I am in favor, ladies and gentlemen, my attention having been particularly called to the condition of the country roads in this state, I am in favor of having the full width when you come to the country roads. I am glad the matter came up.

N. E. Allen, Beaver Dam—Mr. Chairman, I most heartily approve of the remarks. There is nothing the people of Wisconsin are so utterly deficient in as in the matter of road making. I am in favor of taking the tax in money instead of work for the purpose of road making. I will guarantee to make roads, in the town in which I live, for one-fifth of the time that is attempted to be put on the roads by the town in the way of road making. Machinery is the only thing that will make a road as it should be.

William Gill—How much are they, what is the expense of a machine?

N. E. Allen—$120.

William Gill—Where manufactured?

N. E. Allen—The machinery I have is manufactured in Fort Wayne, Ind. You can get it for $120 if you want. I will say, though, it can not be worked on all kinds of soil. We have one in our district. We can use it where there is no stone and no gravel. You can use it on a great many roads, but when you come to roads where there are timber, rocks and hedges, you can't use it.

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William Gill — Mr. President: I am not personally acquainted with the working of the machines, but I am perfectly satisfied that Mr. Allen is correct in his representation of the work of the graders. I have heard a number of men state what kind of work they will do. When you come to rough, stony places I do not believe they will grade it. In regard to this matter of roads it is a subject I have been interested in for considerable time. Two or three years ago we spent nearly one-half day in discussing this subject. A committee was appointed and resolutions introduced and passed. Mr. Allen was on the committee and the matter of collecting the taxes in money was urged. I do not mean to accuse the gentleman of making a false statement, but he knew it was false when he made it. He said the farmers pay the taxes in work. They do not; they go on the road and have a good visit. And that is the way he pays his, and the roads in his section of the country show it, too. (Laughter.) I have been over them.

There were some remarks made by the gentleman reading the paper about the subject never having been discussed in the Farmers' Institute. I have noticed that myself, and I had an idea that I knew the reason for it. It was a good deal like the old darky minister's preventing any allusion to chicken stealing, it would probably throw a coolness over the meeting. We are everyone of us as farmers guilty in regard to this matter, and we everyone know it whether we will acknowledge it or not. We go tipping along over our bad roads and make three trips to market where one would be enough if the roads were good, and we could carry full loads. If there is only one district badly kept we have got to load so we can get around that place. It is costing us 50 per cent. more to get the produce to market in labor, which should be as good as money. If we thought the railroads were costing us that much more than it ought to carry our goods to Milwaukee or Chicago, we would haul them there ourselves. In regard to the resolution passed and the committee appointed, it did what was requested of them and brought it up before the legislature, but the legislature refused to take any action in the matter because there were a

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few parties in the northern counties of this state who were depending on the privilege of making money out of the district. I do not think it is necessary to say any more about it because there are men here present who know just how it is themselves. As long as we will sit down contented with the roads in the condition they are so long we will be powerless to have it rectified. We cannot do better than we do under the law we have. You will never have good roads until the tax is collected in money and laid out in a good system of roads.

Hon. H. G. Klinefelter—Mr. President: I take it for granted that this discussion is open to everybody, and I also take it for granted that everyone who has taken part in this discussion so far are farmers. Now, the first gentleman who spoke referred to the farmers working out their taxes, and that it was better than paying a cash tax, when he certainly ought to know better. I believe he does, and if the question was rightly put to him that he would acknowledge it. It has been clearly demonstrated that at least one-half of the money worked out on the road system at the present time, if paid in money, would put our roads in such shape that they would be passable at all times of the year. There was a bill introduced in the legislature here last winter to have our roads worked on the cash system, and, as the gentleman just remarked, it was partially through the influence of our northern members, that he referred to, that the bill was defeated and was ignominiously defeated, because there was road money paid in there that a great many put in their pockets; it never went into the roads. In my neighborhood I presume we have the best worked roads in the country. I have failed to see anything better. We have done it under the old system of pathmasters. We have been fortunate in having a gravel pit close by to work it with. We can travel over it any time of the year, no matter how bad the roads may be, and carry as big a load as you can put on the wagon. It is gravel all over from one end of the district to another. The gentleman here said we could not use machinery where it is rocky. There are other ways to work the road so as to have them better. Its a discredit

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to the farmers throughout the state that the roads are in the condition that they are. We ought to have better roads, and we can have them at less expense than at present. The bill that was presented last year to the legislature was drawn in such a shape that it gave the farmers the privilege of paying 75 per cent. of their taxes in work; at the same time it was drawn in such shape that they would have to put in a day's work and do the work as well as if they would be paid money for it at the end of the day. If we would adopt some such system we would have better roads and be better for it. I think the large majority of the farmers are in favor of better roads and want to adopt some plans that will give us better roads. I venture to say if a vote was taken nine out of ten would vote in favor of a better system of road making.

Mr. Herrick — I would like to say just a few words more. In regard to saying they want us to make better roads so as to please our city friends is hardly generous. In making roads we very well know that we would be benefited as much and more than the city people. We know well that the system we have adopted — that we are using at present, that we go to work in the spring and we work out nearly all of our road tax, and then the road is left entirely until about, say November, then it is found that a good many repairs are needed and the pathmasters have the roads plowed up and the fresh soil thrown up and then you have, every time there comes a rain or thaw, you have to go through mud and slush until the next year the roads are thoroughly settled. In this paper I did not advocate as strongly as I would like to have done the way I think the taxes should be paid. I believe we should pay our road tax in money the same as we pay our other taxes and then employ competent men to do the work. I am making roads this winter and I have men hauling gravel, and if I don't attend to my business carefully, if I don't give my attention in seeing that the men work out their whole time, the men will shirk and not do a full day's work. The men I employ will fill a wagon in ten minutes, and it is astonishing to see how many loads of gravel the teams will haul in a day when the

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men attend to their work. The most of the people do not say enough about wanting better roads. The most of the pathmasters do not know we want to lay out the taxes so and so. There is no particular system; there is no method about it, and the next year the road is all washed out and has to be made over again. Sometimes it washes away a little at a time, and sometimes there comes a big rain and washes it out all at once, and there is soon no road at all. We have a system that will compel us to make roads in the spring, but we want roads the entire year. The gentleman speaks of road machinery. We are all interested in machinery. Everything is done by machinery and hand labor cannot compete with it. You ask a man to come here and give you a paper on the different breeds of cattle. Who do you get to do it? I see A. O. Fox, of Oregon, is to read you a paper on horses here. Why? Because the man has given it attention, his money is in it. His paper can give you information. Another man you ask to prepare you a paper on another class of horses. You ask him because he knows what he is talking about. It is supposed that we all have common intelligence and when those papers are brought in and discussed, you do not ask one who knows nothing about these subjects to prepare papers for you. You always want someone who knows, who understands what he is writing. I know what I am talking about, I have seen this road making tested, and I can take one of those machines, four horses and a man to drive and make all the way from one-quarter to half a mile per day and make it better than you can make it any other way. I can build more rods for $2 than you can for $5, and do your best. When your roads are made you must not leave them. After a heavy rain you must take a scraper and have a man go over it five or six miles a day. You can fix up a machine out of a heavy log. Go over the road two or three times and you can keep your road in good condition, with little, very little expense. You can find men enough who will tell you what they will do. You can try the machinery and it won't cost you anything. There is no harm in a man's telling you what he has and you can try it and see if

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it amounts to anything. Better roads we must have. A great many say we haven't the material in Wisconsin. Dig down ten or twelve feet and you get splendid gravel. My farm is in Middleton, and we have just been putting in new roads there. We must have better roads if we would increase the value of our farms.

Mr. Allen — I have a resolution to present:

Resolved, that it is the sense of this farmers' convention that a tax of one-third as now assessed, be assessed in money to be expended upon the highways by a competent engineer and that the next legislature should enact a law to carry this into effect.

President — The resolution is referred to the committee on Resolutions without any debate.

THE COMING AND THE GOING HORSE.

By F. A. Parsons, Lake Mills, Wis.

The great interest which is being manifested by the people at large in agricultural matters, especially in our own state, the new methods that are being so readily adopted in the production of all farm products, the great improvement already reached and the promises of large betterment to the farmer, and therefore to the whole community through these new methods, seem to call upon all who are particularly interested to scrutinize carefully every movement which holds out inducements for its adoption, that security against unprofitable schemes may be found, and the necessity for repeated amendments of our action be, as far as possible, avoided.

It has been learned that correct methods and intelligent action are as much needed in the agricultural pursuits as in any other, and, as the chief thought of all pursuits should be to bring back to the toiler as much as possible of convenience and comfort, too much keen inquiry and investigation concerning what will give these in the largest measure can hardly be indulged in.

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IMPORTANCE OF PROFICIENCY.

One weakness of humanity is, the disposition to ride hobbies in narrow grooves, and thus many miss their proper sphere, and hide their best talent under the bushel of a misguided energy, so that, although their lives are noisy enough, they fail to get the right light, and also fail to give light to others, when, had their maiden efforts been along the line of careful investigation, there might have dawned upon them the fact that, in some other channel they would have found success and proved benefactors to others. Specialties in farming are as legitimate as elsewhere, and the need of specialists just as urgent; and needful care in the outset, so as not to become a specialist in the wrong direction, just as important. It is true that, in every profession there are bunglers; carpenters who cannot make a joint; horseshoers who can do nothing but ruin horse's feet; lawyers who are never worth a cent, except in collecting fees; doctors who are simply "hell on fits," etc.; and stock growers who never have anything but scrubs and are dead in love with them; and butter makers who seem to delight in seeing their cows chew hard cornstalks in an open field when the mercury is below zero, and are hilarious over butter as incipid as unsalted lard, or rank enough to wear epaulets, still claiming to know just how the thing is done, for they have been doing it for many, many years.

PROSPECT OF IMPROVEMENT.

But we are happy to be able to realize fully that great changes have been wrought, and great improvements made in the butter and the stock (if not in the lawyers and doctors), and the bewitching hope that scrub stock, and when Commissioner Thom fully expresses himself, stalwart butter, wagon grease cheese, and aquatic milk also will pass into the shades of forgetfulness, rises up to cheer the hearts of the people of Wisconsin, and brighten the path of their future intelligent and legitimate action. What has been accomplished, has been by the persistent, enlightened effort of a few, whose investigations have probed the recesses

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of nature's great secrets, and brought out the hidden truths; and the entire agricultural world will, in the coming time, sing praises to the names of Hoard, Henry, Adams, Morrison and Lewis, and many others of our own state, whose untiring investigations have laid bare the golden facts from which has sprung up new life, activity, energy and determination of purpose, which promised so rich a harvest along every line of agricultural enterprise.

PRINCIPLES THAT ARE EVER RELIABLE.

But you ask, what has all this to do with the "Coming and the Going Horse?" Much, very much I answer. For, though we might look safely to horse culture in this country, for all the proof we need to establish the fact that, earnest, intelligent action will bring desired results, the other branches of agriculture are corroborative in the proofs they bring of the great value of such intelligent action, and they come home to a much greater number, hence will be more convincing and more apt to secure attention than proofs, though as incontrovertable, brought from a field not yet so well surveyed by personal experience. In other words, what is true in the breeding of dairy cows, or beef cattle, or swine, or sheep, as touching proper methods, is true in horse culture; and he who has been living with his eyes open for the past quarter of a century, cannot have failed to see how certainly a given time may be reached, if the proper elements enter into and control the initiatory, and best results only are retained as the proper auxiliaries of further operations.

LACK OF KNOWLEDGE OF HORSES.

The number of men who can at once tell a Jersey, an Ayershire, a Holstein, a Short-horn, etc., when they see them is very great, but the number able to tell the kind of a horse they are looking at is infinitely less, and quite a majority of mankind is as likely to get sold as not in trusting their own judgment, and worse sold if they trust their neighbors in the selecting of a horse for any purpose. Very

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few know a coming horse from a going horse, and are as likely to call a stayer a goer, as they are to call a comer a stayer, and most of the folks are quite likely to get the matter badly mixed up; and, my friends, if you know any more about it when I finish than you do now, please consider yourselves fortunate.

But in my study of horse, I think I have discovered two kinds of comers, two kinds of goers, and two kinds of stayers. There is a coming horse, we all have seen him, so destitute of energy, of good blood and muscle, nerve and grit, and so poorly bred, that, though he continues to come he seldom gets home until too late for dinner. He ambles along in his ox-cart fashion and arrives just about the time meeting is out, and the goers are enjoying the doxology. They are a long time coming and good for nothing when they get here.

THE HORSE THAT IS WANTED.

But there is another "Coming" horse, a few of which we have seen (and present day enterprise tells me he is coming), a horse that is not at this time plentiful enough, hence ought to come, and that is the hardy, muscular, speedy roadster, so well bred, and so closely bred to the right ideal, that his posterity will form a breed, or class, so uniform in appearance and in qualities, that from them single drivers or matched road teams, full of action and endurance can readily be secured.

And as I said there are two kinds of goers. The one is going because he has been here long enough, and he is the same as the comer that fails to arrive; he has no breeding, no particular shape, unless you choose to call them all shapes, no points but interrogation points, for he always seems to be inquiring whether to go or stand still; his legs are on wrong and he cannot manage them; his head is largest at the little end, and he has a sort of fall-over-himself gait, which wrings all hope from his driver and substitutes large adjectives, and when doing his best goes slow; hence he is a goer that must go and not return, for the intelligence of the age and the rapidity of progress

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have decreed it. Such was the Irishman's horse, of which his master said, "he is a poetic horse, for sure he goes more in the imagination than in realty."

THE RIGHT KIND OF GOING HORSE.

But there is another going horse, and in him we see the result of right breeding, the result of knowing what is wanted, and after first finding the proper elements with which to initiate the undertaking, pushing toward the object with unflagging determination, by the use of right methods, watching continually every developement, selecting the best results and still pushing on until the American trotting horse, from a doubtful quantity at first, has become a breed, a family, the possibilities of which in its future development, cannot at present be anticipated. From mature horses which were a surprise to the crowd at a three minute gate within my recollection, we now have three year old colts going away down near the two minute mark, and all this because some enterprising men commenced to work to a standard, and followed it up by earnest, intelligent action until they conquered.

TRIUMPH OF AMERICAN BREEDERS.

The American trotter is indeed a goer, and he is bred with a great deal of certainty, so much so that horesmen will buy colts unbroken at fabulous prices, only asking that the form and pedigree be correct, so great is their confidence in correct breeding. We know there are many who profess to sneer at the fast horse, and object to exhibitions of speed at the fairs, etc., but they should remember that, in the creation of the trotting horse as we now find him, can be seen the grandest result of human effort in stock breeding the world has ever seen, and the work has all been American, in America and by Americans. It proves not only the possibility, but the certainty of success where effort is made along the right channels and by the use of proper methods. And it proves that we have a country where the finest qualities that enter into the make-up of the best horses on earth can be perpetuated and improved,

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and if this can be done in the direction of speed, which not only requires form, but energy, grit, endurance and courage, it can as well be done in any other direction, and with the same certainty of reaching the desired result. There is a poetry of motion about the fast trotting horse that charms every beholder, but cannot be described. It is entirely unlike the poetry of the Irishman's horse before mentioned, and I find that the best of men, and women too, love to study it from the grand stand, even at the "fair," though the pigs and pumpkins, cattle and cabbages, are for a time seemingly neglected. I think most of people are not unlike our friend Kellogg, of Janesville, who, on one occasion when accused of some love for a fast horse as well as for strawberries, responded that he did like a horse fast enough to take his daughter to town and bring them home again before the fashions changed. Evidently he likes both a coming and a going horse of the right kind, and not of the kind that never gets here when it comes its best, and never gets there when going with all its might.

TWO KINDS OF "STAYING" HORSES.

But there is another kind of horse, of two grades also, and that is the stayer. The American trotter is a fine specimen of the valuable kind of stayer, for he has the mettle that enables him to stay until his heroic work is done; it is a part of his breeding, and it responds to the demands made upon it grandly, just in proportion to the proper elements found in each individual animal. But there is another stayer; one that will stay in the stall and eat with composure; stay in any field you do not want him in; he is fast when securely tied; he will never make a quick motion in his life except to run away when being harnessed; a very small load fills him with sadness and discouragement, and he will stay by it a long time without moving it far, unless he is headed towards home and hungry. He is closely related to the original "comer," and the slothful goer, and still he has friends like his slow brethren who continues to breed him, and use him, and pretend to love him as though he had

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some intrinsic value. These are a distinct (I wish I could say extinct) race, and it takes but little effort to keep them in being, except heedlessness in breeding, hence they are an established breed that will never run out so long as men continue to patronize the elements of which they are compounded, and refuse to learn the methods, and make use of them, which would surely obliterate these seemingly well established nondescripts.

THE ESTABLISHED HORSE.

These plugs being so thoroughly established, bring to my mind a story I once heard a minister tell when speaking in a sermon, of lazy Christians. He said there was an old deacon of the real old fashion sturdy kind, who did not believe in excitement. He had a son who loved to attend revival meetings and hear the vigorous singing they indulged in; and one night on returning home he asked his father why he did not attend the meetings and hear the beautiful gospel songs. The old deacon answered, "My son, I do not need it, I am established." A few days after the deacon and his son were down in the woods hauling wood with the old team, and became stalled, and after trying every way to get the team to start the not very heavy load, without favorable results, the old deacon exclaimed: "I cannot see what is the matter with the team, certainly the load is not heavy." The son thinking he had solved the problem, said, "Father, I think I know their trouble." "Well," said the deacon, "what is it?" "They are established," said the boy. So these stayers are established, both for inactivity and worthlessness, and for perpetuity as well, unless a large class of men quit ordering them, and thus break up the demand and make the supply superfluous.

SUGGESTIONS FOR IMPROVEMENT.

Seeing that desired results can be reached in the breeding of animals, and knowing as we do that, we need an improved road horse, permit me in conclusion to offer a few thoughts in that direction. The trotting horse does not fur-

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nish the proper combination of elements for a good roadster class, neither does he furnish that similarity of contour, erectness and vim needful to enable us to trust him for matched teams. He has in large measure, that which must become one of the corner stones of the roadster enterprise, to-wit: the thorough bred quality, but this alone will not furnish the distinctive type. A way must be found to unite with this something that will bring an evenness of resemblance and character, and physical and mental characteristics, such as are not at present found.

This coming horse must be lighter than the draft horse, and more supple, active and rangy than his immediate posterity as commonly produced among us. He must be heavier, and differ in mould from the trotter as the trotting horse will average. He must have power, endurance, speed, fine carriage, docility and courage. He must be quick of motion, compact of form, proud of step, firm and elastic in his tread. But the inquiry comes, "How can we get such a class of horses?" Just as the "thourough bred" was obtained. Just as the Clyde, the Shire, the Percheron and the Coacher was made. Just as the Jersey, the Holstein and the Short-horn cattle were obtained. Fix the type, secure the elements, then breed to the type, continually rejecting the failures, keeping an eye continually open to the survival of the fittest.

A TRIBUTE TO THE MORGAN HORSE.

How persistently do the different breeds of imported draft horses maintain their distinctive characteristics, it has been reached by proper breeding and selection. What potency we see exhibited by the thoroughbred in communicating his qualities to his progeny; and how wonderful are those qualities. He was started by a cross, and improved by care and cultivation. His best blood, according to the authorities, came from the Darley Arabian. This work must be done in the same manner as all similar work has been done, and is now more than ever being done in this country in all hopeful stock growing.

But, happily, we are not without precedent in this very

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undertaking which we are urging. The Morgan horse furnishes us an example, and a worthy one, for our consideration. Too small, perhaps, for the fancy of most men at the present time, but a complete roadster, either single or in pairs, and so well bred as to have the needed force, endurance and activity; combining style of carriage, with speed and docility, he was, when in the heighth of his career, as a class, the nearest perfection of any breed of horses ever created in America, or elsewhere, as a stylish, beautiful, rapid roadster. Since my recollection, this breed of horses was so carefully bred and so well selected that, it was an easy matter, at Rutland, Vt., and vicinity, to secure matched teams as like in resemblance as peas; rapid and charming in their movements, docile and trustworthy in their dispositions, and, until the Canadian horse commenced to take his place on account of cheapness and resemblance, the Morgan was the favorite for pleasure, and light business driving in the part of the Old Bay state where I was raised. I have not time to trace his pedigree, but he was of good parentage, soon became a distinct class, or breed, by selection and care, and could he be restored with nothing added or taken from him, except a little improvement in size, we would then have the finest roadsters ever known as a distinct breed, adapted to that purpose.

THE PERCHERON-THOROUGHBRED CROSS.

But we have another precedent of no mean value, in the Canadian just noticed. I do not mean the Canuck, that little woolly-legged fellow, but that beautiful horse once so plentiful in the Quebec province, created by a cross between the Percheron and thoroughbred. The French brought the Percheron into Canada from Perche, in Normandy, and the English brought over the thoroughbred, the cross yielding a progeny resembling the Percheron in form, refined by the cross with the high-bred English stock, and so wonderful in faithfulness to the Percheron type that, as with the Morgans, matched teams of extraordinary beauty, could be easily secured, filling the place of the Morgan most admirably.

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I might say more of this Canadian horse profitably but want of time forbids. In conclusion I will say that, in these two precedents, well established as they are, we have the proofs that to start a class of roadsters, such as we need, of which there is so great a scarcity, requires no long period of time, because methods are now so well understood, and needful elements are so easily procured, that all that is wanted, is knowledge of horses and horse breeding. and cash, to push the enterprise to speedy success. He who will perform this work will become a benefactor to the rest of mankind, for he will give to the world horses which, single or in teams, will be goers and comers and stayers of the right stripe; will be able to go to mill and return in the same day, get to town and back before the fashions change; get to church before the doxology is sung; give more pleasure to the driver; draw a bigger load for his size; plow more acres, and eat less food in a day than any horse now known as a class on the face of the earth.

The President — The instructive and spicy paper of Mr. Parsons is now open for discussion.

Mr. G. E. Gordon — I have been very much interested in the paper of Mr. Parsons, and only rise to add a word or two from early experience. The question before us, of course, is a practical one. This is a question of particular importance to the farmers. What shall the farmer breed? What kind of a horse should the farmer breed? I think if he uses a great deal of money and a great deal of judgment he might as a specialty, breed trotting horses. It seems to me there would be big money in breeding trotting horses provided he can afford to buy expensive mares that cost up into the thousands and the expensive stud horses that walk into the ten, thirty and forty thousands. There is money in the trotting horse when done rightly, but there seems to be no money in the breeding of trotting stock when it was carried on even by men who made a specialty of it. In the last two or three years there have been two sales of good trotting stock. A man breeding cattle can get

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more money from their increase than the man having no more sales could get from their colts, which shows there is something a farmer can do besides breeding second class trotting horses. I am glad here to offer a word of praise for the trotting track, for trotting races. The trotting race or trotting meeting is for the American horse what the English race meeting was to the English horses. If we give them up, if we give up the races as the beginning of the little shows, in the county fairs, in the state fairs, and then the big circuit meetings, we are going to lose then one of the finest incentives to the breeding of fine American horses. I am always glad to speak a word for the breeding of good trotting horses. I am not interested in the gambling part of it. What I am particularly interested to say to-day is this: Years ago when railroads came into the old world coaches went out. They went out quicker than in this country. Here they lingered longer than in the old world, than in England. The coaches going out left upon the market a very large number of fine quality of horses. Horses of great endurance, of good size, of immense power. The best horses then bred there were an English-Percheron; thorough-bred cross. Experiments were made in Yorkshire, Norfolk, Suffolk, Buckinghamshire, and Cambridgeshire, by a large number of men, and the result was the direct produce of the Percheron and the old English coach mare. It was the present Percheron Chief with Norman blood in it. The old French Percheron, the product of the war horse of the crusaders, the product of the great Flanders horse of that district, big enough to carry a mediaeval knight in full armor, crossed with the Arabian. The experiment I have spoken of was made with the old fashioned, short-legged, clean-legged, active, high spirited Percheron horse with some considerable speed. They are active with enormous power and muscular development.

The most delightful disposition of any horse in the world is the disposition and temper of the old fashioned Percheron horses. A number of them were brought over to this country, some to this state a few years ago. The result of the importation of that class of horses has left scattered

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throughout the different parts of the state, here a few and there a few, a large number of these fine animals. Now I am right in saying that there are as great possibilities in this part of the United States as anywhere for the production of a fine grade of horses. We have some of the material as we have a great many good, large, active great Percheron mares, and we have what we know England didn't have, namely, we have the fine large, active American trotting horses, better horses to cross with these mares than England ever bred. In England they got what they worked for, a fine big, red horse, a horse that is important to English folks, capable of carrying a man all day, very different from the miserable kinds of our plains, a desirable and magnificent animal, capable of strong work in the harness and great work in the saddle. We want here a horse for the saddle and a road horse that would combine all the qualities that the American can ask for. Many say that the color indicates the temperament, fine, soft hair, soft as velvet to the touch indicates a good temperament. The American horse anyway is the best tempered horse in the world. I believe that we can produce here the finest road horses and work horses that are produced anywhere. I believe the only way to get the general purpose horse, which is a special purpose horse also, is to train them from the start to do the things desired. We want a general purpose horse, a horse that can be hitched up and take us to the city and do a day's work as well; a horse that can do any one of these things provided he is asked to do them, that is what the Americans want. I believe instead of breeding the road mare to the cold blooded Shire, or Clyde, or a Norman, I would inbreed Yorkshire or French Coaches, any one of whom have been known for strength and character running back over many generations. Instead of breeding the American farmers' best mare to the big draught horse we want to do the exact reverse and take the finest mares from the Percheron American horses and breed them to the finest, best tempered American trotters we can find.

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H. A. Briggs — Mr. President: I believe in keeping our horses apart; if we have good road horses keep them apart and breed road horses with road horses; if we have a good Percheron mare, an English Shire mare, keep it so and bring it to perfection. I don't believe in this hash business. If we want a roadster we want a roadster, and don't want a poor draught, but want a roadster that is a roadster. I believe the American trotter can be bred so that we can get a ten, twelve or thirteen hundred pound road horse that will make our general purpose horse, something that the city is calling for at this present time. Another question, it seems the farmers can raise and make more money out of good draught horses which sell when three or four years old for $50 and sometimes for only $20, than he can raising fancy breeds, and the buyer asks no questions about his pedigree while he is strong, smooth and has the proper weight.

William Gill — I have been greatly interested in regard to this subject of the coming and going horses. The gentleman last on the floor, though opposed to making hash, wants a road horse from 1,200 to 1,400 pounds in weight and proposes to get it right from the Morgan trotter without any cold blood. I want him to tell how he will do that without cold blood from somewhere. The gentleman who spoke previously has given the most interesting talk on horses that I have heard for a number of years. I have been listening and reading a great deal on horse matters. I broke away and came up here, but did not expect I would get enough to pay me for coming, but have got enough from that ten minutes' talk I have heard from that gentleman, so I feel well paid. There has been a great deal of scoffing about a general purpose horse. Last night there was a great deal of talk about a general purpose cow. I think A. O. Fox claims to have a combination sheep. I don't know how we are going to get a general purpose animal for farm purposes, we need them. I have believed in them for a great many years, and it has been scouted at for as many. I believe in general purpose horses for the farmer's team; I believe in the general purpose cow for the dairy, and I be-

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lieve in the general purpose woman for the farmer's wife, and I believe they are all come-at-able.

This question of horses is one I have been interested in for a great many years, for thirty years and over and I was much interested by the paper read by the chairman of the Morgan Horse Breeders' Association last night. Thirty-three or forty years ago I was very much in favor of the Morgan horse. There was considerable of that blood introducee into the neighborhood. The Morgan horse is well enough, what there is of him, if he only went far enough. The question is to grade them up in size. A gentleman said it would be a good horse if it could be made all over. Would it be a Morgan horse then? I have been experimenting with a pair of young mares I keep for a team and I kept them for a good many years and raised stock from both sides and took a different course with each. One side I bred to a Morgan breeding trotting stock. (President: The time for discussion is nearly up.) I bred one side to Mambrino Chief, a — son of Almont. On the other side bred a cross of the heavier breed of shire horses. I have now a horse bred in the same way that weighs fifteen hundred who is as active as any of the get of the Morgan stock. You can readily see where the blood came from.

Mr. Parsons — Mr. President, I have no objections whatever to general purpose horses, I mean the horse the general farmer can raise and make the most money out of.

President Mitchell — I regret to have to limit the discussion of this very important matter. The following invitation has been received:

UNIVERSITY OF WISCONSIN,
Office of the President,
MADISON, February 5, 1890.

HON. JOHN L. MITCHELL,
President of the State Agricultural Society.

MY DEAR SIR: — Will you do me the favor to extend to the members of the Agricultural and other associated societies now in session at the Capitol, a cordial invitation to visit the University at any time that may be convenient

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for them. Work is in progress from 8 o'clock in the morning until 6 in the evening. It will give us pleasure to meet as many of your number as may do us the favor of calling.

Very respectfully yours,

T. C. CHAMBERLIN.

The President — There is a communication here from a distance from Hon. John Hicks, minister to Peru; Gen. Parkinson will kindly read the communication.

Gen. Parkinson — Mr. President, Ladies and Gentlemen: It gives me great pleasure to read from the paper of my old school mate but, part of it is in a foreign language with which I am not familiar, Spanish.

AGRICULTURE IN PERU.

Know ye the land of the cedar and vine,
Where the flowers ever blossom, the beams ever shine:
Where the light wings of Zephyr, oppressed with perfume,
Wax faint o'er the garden so fresh in her bloom?
Where the citron and olive are fairest of fruit,
And the voice of the nightingale never is mute,
Where the virgins are soft as the roses they twine,
And all, save the spirit of man, is divine.

To the farmers of Wisconsin, a land of frost and zero weather, of ice and snow, I send greeting — a greeting from a land of perpetual summer. Five thousand miles south of you, Peru stretches along the western coast of South America for nearly 2,000 miles, from Ecuador in the north to Chile in the south. Although in the tropics its peculiar location in the vicinity of prevailing winds from the south, tempers the equatorial heat, and the summer in Lima is never as warm as a summer in Wisconsin.

The Andes mountains, assisted by the trade winds from the Pacific, produce another remarkable condition, and that is, the entire absence of rain. Between the Andes and the ocean, except in the extreme north and the extreme south, rain falls, and all agricultural operations are carried on by irrigation. The climate is generally very agreeable but not

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always healthful. A continuous mild heat is not conducive to vigorous health, and much of the country is malarious, especially to Europeans and North Americans.. It is a country where you never need an overcoat, an umbrella or a rubber, where the weather is so uniformly pleasant that it is never talked about, where crops grow the year around, and where one might almost say that

"Every prospect pleases,
And only man is vile."

For centuries before the discovery of America, Peru was inhabited by an intelligent and highly civilized race of Indians. Forty millions of people were governed by the Incas, who ruled with justice, moderation and wisdom. Agriculture was carried on very successfully and every foot of arable land was under cultivation. Even the sides of the Andes were terraced to secure more land, which was irrigated by water from the interior, and the remains of these wonderful "hanging gardens" can be seen to this day. An extensive system of public roads extended throughout the country, and public granaries and store houses were established where government couriers and military expeditions could find refreshments. Gold and silver were not used as money, but found a place in decorations and in jewelry and small tools.

In 1530 the Spaniards under Pizarro conquered the country and for three hundred years it was a province of Spain. The Spaniards destroyed a civilization far higher and more beneficial to mankind than the one they established. Their object was two-fold, to enrich themselves from the gold and silver of the country and to convert the Indians to Christianity. Hundreds of millions worth of treasure were sent to Spain and the Indians were reduced almost to a condition of slavery, while the proportionately small number of Spaniards held the country under the rule of a viceroy until 1826 when it became a republic. Since then it has suffered from revolutions and misgovernment and within the past ten years it was almost ruined by the Chilians, who burned the cities and took away its income derived from extensive fields of nitrate.

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The present population of Peru is about 2,500,000, consisting of Indians and their descendants, who form about two-thirds of the population, and the descendants of the Europeans, principally the Spaniards, with about 40,000 Chinese. The language of the country is Spanish, although the Quicha, or native Indian tongue, prevails in the interior, and the only system of religion permitted by law is the Roman Catholic. Its superficial area is about 500,000 square miles, or more than nine times as large as Wisconsin.

Previous to the war with Chili, Peru derived a magnificent income from the sale of guano found in the islands of the Pacific, and from the nitrate beds in the southern provinces. For instance, in 1871 there were shipped to Europe 393,726 tons of guano, which yielded a net profit of £2,785,641 or $13,928,205 to the government. The fields of nitrate in the province of Tarapaca were beginning to yield almost as much when the war broke out with Chili.

Accustomed for more than a generation to the receipt of such an immense income from natural sources, the Peruvians were demoralized, and instead of taxing the people for the support of the government, the government supported myriads of people through a large pension list and by giving employment to a horde of office-holders. A gigantic and extremely expensive system of railways was projected, and the entire property in the guano fields was hypothecated and finally sold to pay for the roads. The war with Chili came, and at its conclusion Peru was vanquished, the productive property was lost, and a national debt on her hands amounting to $250,000,000. An arrangement is now being made to fund this debt, and when this is done a new career of prosperity will undoubtedly open to Peru.

Of the arable land in Peru, about three-quarters of it is between the Andes and the coast, while the remainder is in the interior. All along the coast, which is generally sandy and barren, there are numerous small rivers which find their source in the snow-capped mountains and empty into the Pacific. It is in the valleys of these rivers that the principal part of the fertile land is to be found. With-

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out the water for irrigating purposes, the land would be worthless, but as it is, an abundant supply of water makes the land wonderfully productive.

It would make an honest Wisconsin farmer smile out loud to see the way the land is plowed. From six to a dozen teams of oxen are put at work in a single field of twenty or thirty acres. The oxen are yoked, if I may use the expression, by tieing a heavy beam across their forehead and in front of the horns. To this beam, the plow is attached, all the force being applied by the head instead of the shoulders. The plow is a crooked stick or branch of a tree, the point faced with iron. The Hebrews, when they tilled the soil in the time of Moses, had a plow made the same way. I must say, however, that the intelligent Peruvians contend that they do not need to plow more than two or three inches deep, simply enough to loosen the soil so as to enable the seed to take root. The water used in irrigating is said to be rich in plant food, further obviating the necessity of deep plowing.

It may also be added that improved plows suitable for this country are now manufactured in Europe and the United States, but it goes without saying that they are very different from the plows used by a Wisconsin farmer. They are light and small, having a close resemblance to the original crooked stick. Another peculiarity of every Peruvian plow is that it has only one handle. The driver carries in one hand a huge goad, twelve or fifteen feet in length, with which to touch up his team, and he manages the plow with the other hand. When the field is plowed, the next step is to make the irrigating ditches. These must connect with the *acequia* [pronounced ah-sày-kee-a, accent on *say*], or canal which brings the water from the river, and they traverse the field at a distance of three or four feet apart and are six to eight inches deep. They are so arranged that the whole field can be instantly flooded by turning on the water, and every hill of corn or potatoes or sugar cane will be thoroughly soaked. Of course the field must slope in the right direction, and if nature has not so made it, the level is reduced sufficiently before it is plowed.

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Wheat, of course, cannot be grown here to advantage. The bread we eat is made from California or Chilian wheat. A peculiarity of the bread is that it is never made in the home, but is invariably bought at the shops, even in the villages.

Coffee is raised in quantities sufficient for home consumption, but not enough for export. The berry is the finest in the world and retails in the Lima market as high as 60 centavos, or 40 cents per pound. With a climate and soil well adapted to the cultivation of coffee, I was surprised that more attention was not paid to it. The only explanation given is that it requires skilled labor, which is almost entirely wanting in this country.

Clover or timothy is not raised here. The universal substitute is alfalfa, which is the food of cattle, sheep, horses, mules, donkeys, goats and llamas the entire year. It can always be kept fresh and green by supplying it with water, and stock thrives on it always.

Corn grows indigenous. You can see fields of corn at any season of the year and at almost every stage of growth. It is the staple food of all classes, the natives grind it between two stones and the meal is mixed in a batter, when it is fried in the shape of pan cakes, which are called tortillas, pronounced tor-tée-yas. These are covered with a sauce made of lard and pepper and rolled up in a size convenient to handle.

It is from corn that the natives make *Chicha* [pronounced chée-cha], the national drink of Peru. Chicha is to Peru what beer is to Germany, whisky to Ireland and *pulque* [pronounced pùll-kee] to Mexico. The corn is pulverized between two stones and the meal is put to soak in water and the mass is afterwards boiled. The juice is then fermented and the result is a sour liquid resembling to a certain extent weak cider. It has a cooling taste and is slightly intoxicating. I have drank the *pulque* in Mexico and the *chicha* of Peru, and I must say that of the two, *chicha* is the least harmful.

The potato is a native of Peru. When the Spaniards first visited the west coast of South America, they found

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this esculent, cultivated by the natives, although it grew naturally in uncultivated places, wherever a sufficient degree of moisture enabled the plant to live. Tradition has it that it was on the top of Mount San Lorenzo, the island in the harbor of Callao [pronounced Cal-yów], where the Spaniards found the first potatoes, and from whence they took the seed to Europe. I have seen the plant as it grows wild in San Lorenzo, and I could hardly recognize it as the great ancestor of all the potatoes. It was about six inches high, with delicate little vines and a pretty blue blossom scarcely larger than a violet, while the potato on the roots below was no larger than a hazel nut. From this insignificant plant has been evolved by cultitation and careful breeding, the numerous family of the potato, which within 300 years has made its way to every part of the civilized world and now forms an important item in the world's bill of fare.

I was amused a few days since in watching a company of laborers at work digging potatoes in a field in a valley of the Rimac. A team of oxen plowed up the hills with a light plow, leaving the tubers exposed on the ground. Six Indian workmen picked up the potatoes and carried them to a pile in one corner of the field, while the overseer, a Spaniard, stood in majestic and dignified idleness, watching the work. The men who were picking up the potatoes had neither pail, bag or box in which to carry them, and how do you suppose they handled them? Two of them put their potatoes in their hats and the others carried them in their hands, each one going from every part of the field to the pile in one corner, carrying five or six potatoes each trip. Here were eight men and a team of oxen engaged in doing work which in Wisconsin would be done more rapidly by one man and a boy.

Oats are not raised here to any extent, except in the mountainous region and there only in small quantities. The great agricultural industry of Peru and the one which she seems best adapted to is the growth of the sugar cane. Her climate and soil appear to be peculiarly suited to cane raising. The cuttings require two years to come to matur-

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ity, and then the plants, in the latitude of Lima, may be cropped for three years in succession without renewal. In the sugar country in the north of Peru, the cane roots are cropped for six successive years without being renewed. Another great advantage is in the equable climate, which enables the farmer to leave his cane standing until he is ready to grind it. There is never any fear of frost, and if the cane is maturing too rapidly, he has only to keep off the supply of water, when the process of ripening is instantly suspended, until it suits the convenience of the farmer to have it proceed. Labor, too, is cheap. From 40 to 50 cents per day is paid, the workmen boarding themselves. Formerly the laborers were coolies and slaves. They were brought here in great numbers from China, but the emancipation of slaves in 1874 put a stop to slave labor, and since then the coolies have been scattered throughout Peru and have engaged in all kinds of work.

The maximum annual product of sugar in Peru has been as high as 100,000 tons, but for several years past, owing to the poverty of the country, the scarcity of labor and the low price, the annual product exported has amounted to only 50,000 tons worth, about $4,000,000. In addition to this amount 20,000 tons are manufactured every year for home consumption. The sugar exported goes almost entirely to England, and is shipped in a partially granulated form. In the Liverpool market it brings 16 shillings per 100, or about 4 cents per pound, but as the freight and expense of shipping cost 5 shillings per hundred, the producer does not realize quite 3 cents per pound for his sugar.

The principal sugar country is in the valleys of Lambayeque, pronounced Lam-ba-yày-kay, and Chicama in the north of Peru, although there are several large plantations in the valley of the Rimac. The smaller ones average from 1,000 to 1,200 acres. Many of these are fitted up with narrow gauge railroads which haul the cane from the fields to the sugar house, and they all have the improved machinery for making sugar.

From the juice of the cane immense quantities of rum are manufactured, and the fluid is used for fuel in small cook-

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ing stoves, and is also used for illuminating purposes, but it is largely used by the natives in the mountainous regions as a beverage, and also by the Indians of Bolivia where it is shipped in immense quantities. This liquor is made in various degrees of strength, from 35 to 60 per centum of alcohol, and the native appetite is so intense that it is frequently drank without dilution. It is nothing more or less than crude alsohol and the custom is to dilute a little water with it. As the cane is easily grown the manufacture of rum is only limited by the demand. It is sold in Lima and the villages at 20 Peruvian cents for a wine bottle full, or about 13 cents a quart, so that the opportunities for this kind of intoxication are within the reach of the humblest citizen.

If Peru is the natural home of the sugar cane, it is also the center of a very large grape-growing industry. As the cane needs warmth its field is in the north, while that of the grape is naturally in the cooler regions of southern Peru. Whole districts are devoted to grape culture, and probably if sufficient money was invested in the business, the wines of Peru would soon rival in the markets of the world the far famous products of the "vine clad hills of sunny France."

The annual product of wine is estimated at 400,000 barrels, valued at $4,000,000. From the Italian or white grape, a very choice brandy is distilled called Italia, which commands a high price. The ordinary white grape of the country produces a similar but inferior liquor which is known as pisco. Pisco is sold in all the drinking places and is a more aristocratic liquor than either chicha or rum. Both Italia and pisco contain a large percentage of alcohol. The use of wines and brandy is almost universal in Peru. The foreigners resident here are nearly all Europeans who are accustomed to the use of such liquors, and the natives, of course, have the habit by nature, so that the consumption of native liquor is very large. The government imposes a tax, not upon the manufacture but upon the consumption of liquor, and this varies from one cent to ten cents per litre, and a litre is a little more than a quart.

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The total receipts from this tax are about $500,000 annually, so you can imagine the enormous amount consumed.

The wool crop is another important branch of industry. In spite of its tropical climate, Peru exports from $4,000,000 to $5,000,000 worth annually. Sheep raising is carried on mostly in the south and in the mountainous regions. Puno is the center of the wool region. Many haciendas have from 80,000 to 100,000 sheep. Shearing is done in June, although that is the season which compares with our fall, still the variation of the thermometor is but slight throughout the year.

The condition of manufacturing enterprise in Peru may be judged when I state that in the whole country there are but two woolen factories, one in Cuzco, the ancient Inca capital, and the second, a new one just establised in Lima. In the interior, the natives manufacture cloth for their own use with rude looms of their own construction. They make a rough cloth from wool, and from the wool of the llama or Peruvian camel they make a peculiar cloth which is much used for shawls, ponchos and comforters. Most of the wool of the country is shipped to England. Wool is now worth 12 pence or about 24 cents per pound.

Next to wool comes the production of cotton which amounts to about $3,000,000 annually. The best grade is worth from 11 to 11½ pence in the English market, while the upland brings from 5 to 5½ pence. The cotton of Peru grows on a tree instead of the diminutive shrub which is raised in the southern part of the United States. The tree commences bearing when it is two years old, and it continues to bear every year for forty or fifty years. In the warm reigons of the north two crops are gathered every year. England takes the whole product. There are three oil mills in Peru which grind the cotton seed, and their entire product is used in this country in the manufacture of soap and "pure olive oil."

The cultivation of coca is extensively carried on in the interior, but exact figures as to the amount and value of the crop are difficult to obtain. This is the plant which produces cocoaine. It grows wild in the mountains of Peru

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and Bolivia and is cultivated in districts elevated from 2,000 to 5,000 feet above the sea. It is valued for its stimulating narcotic properties, which it is said to possess in a greater degree than opium, tobacco or any other vegetable production. The leaves are gathered and dried in the sun and are chewed mixed with quick lime. The practice of coca chewing produces an intoxication similar to that of opium and the appetite for it grows with equal rapidity. Prescott says that it is so invigorating that "with a small supply of it in his pouch and a handful of roasted maize, the Peruvian Indian performs his wearisome journeys, day after day, without fatigue, or at least without complaint." The Indians, under its influence, are said to be able to work from twenty to thirty hours together without sleep. The journey from La Paz to Sucre in Bolivia, a distance of 225 miles, is made by these Indians in three days, with scarcely no food except the coca, which is carried in a small bag with a bottle of lime. The plant resembles the tea plant. There is a factory in Callao and and one in Lima where it is manufactured into cocoaine. It has been cultivated in Peru since the time of the Incas and the principal depots for it are at Huanaco [pronounced Wah-na-co], Ayacucho and Cuzco, in the interior.

Cinchona, or Peruvian bark, was first discovered in Peru and for many years the world's supply came from here. The trees were ruthlessly destroyed and it is many years since Peru produced any large quantity. The mountains of Bolivia continued for years to produce it, and Mollendo, in the south of Peru, is the port from which it was exported. Now, however, the principal source of supply is India, where the plant was transplanted under the auspices of the British government.

Closely allied to agriculture is the production of salt, and in this industry the natural advantages of Peru are perhaps unrivalled in the whole world. On the Pacific coast forty or fifty miles north of Callao is the port of Huacho [pronounced Wah-cho], where the salt deposits are sufficient to supply half the world. The government last year sold the exclusive privilege of manufacturing salt at this point for

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$27,000 annually. Owing to the peculiar formation of the soil, the sea water on the shore percolates into the earth and is evaporated by the heat of the sun. Salt is thus formed in masses almost entirely pure and is cut out in the form of blocks resembling ice. This natural and automatic manufacturing is constantly going on and the supply is practically unlimited. This crude salt is generally used by the natives and is shipped in immense quantities to Chile, where it sells for $1.60 per hundred.

The table salt sold in the groceries of Lima, however, is of English manufacture, as there is no refinery for the article in this country. A similar deposit of salt is found at Sechura [pronounced Say-chu-ray] in the north of Peru, where the privilege for manufacturing was sold last year for $30,000 annually. Sechura supplies Ecuador, Columbia and the northern part of South America.

Immense deposits of sulphur are found at Tumbez [Toom-bees] in the north and Arequipa in the south. Sulphur is found so nearly pure that samples have analyzed at 99 8-10 parts sulphur out of 100.

Fields of gypsum exist in the vicinity of Sechura, but its development has not been attempted on a large scale.

Petroleum is found in the north near Paita [Pic-ta]. Prescott speaks of the deposits of asphalt, and remains of ancient oil wells, and retorts have been found in that vicinity. Mr. Herbert W. C. Tweddle, an American, has recently purchased a vast tract of land twelve miles wide and twenty miles long, at Talara, near Paita, covering the site of these ancient oil works and vast deposits of asphalt which are called by the natives a "pitch mine." Mr. Tweddle was one of the original operators in the oil regions of Pennsylvania, and he knew well the value of his purchase.

He set to work sinking wells, and now has more than half a dozen spouting oil exactly like the famous wells of Pennsylvania. He is erecting a gigantic system of refineries and in a few years, he will have in operation the largest oil field in the world, outside of Pennsylvania.

In the neighborhood of Chimbote [Chim-bo-tee] the coal deposits are said to be very large. Both anthracite and

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bituminous coal exists on the surface and in ridges above the surface so that it can be mined with but little expense.

The mineral wealth of the country is almost fabulous in magnitude, and includes besides gold, silver and coal, immense deposits of copper, iron, nickel, platinum, mercury and many others. Probably not a thousandth part of the mining region has yet been developed.

With a climate as agreeable as any on the face of the earth and with natural wealth exceeding that of any other country known to man, Peru ought to be exceedingly prosperous, but it is not. In spite of all its natural advantages, the great mass of its people are now but little further advanced in intellectual and material developement than they were four hundred years ago, before the European made his appearance on this coast. Considering this fact and comparing the country with our own Wisconsin, are we not justified in the belief that modern civilization depends not so much upon nature's gifts of gold and silver ore, or a sunny climate or fertile soil, as it does upon the character of the people? The world's best stock was contributed to form the American nation and the lapse of years is rapidly developing a power which must soon make it the greatest nation on earth.

My observation of this country and the natural comparisons which one is compelled to make with his own land, force upon me the conclusion that as to climate, soil, productions, people and general surroundings, Wisconsin offers far greater advantages for the enjoyment of life and the pursuit of happiness. The success of American institutions depends upon the elevation of the people, and in no country in the world do the mass of the people enjoy the liberty and possess the privileges they do in the American States.

The average citizen in Wisconsin is a sovereign in his own right and the most favored citizen of other countries is in no wise his superior.

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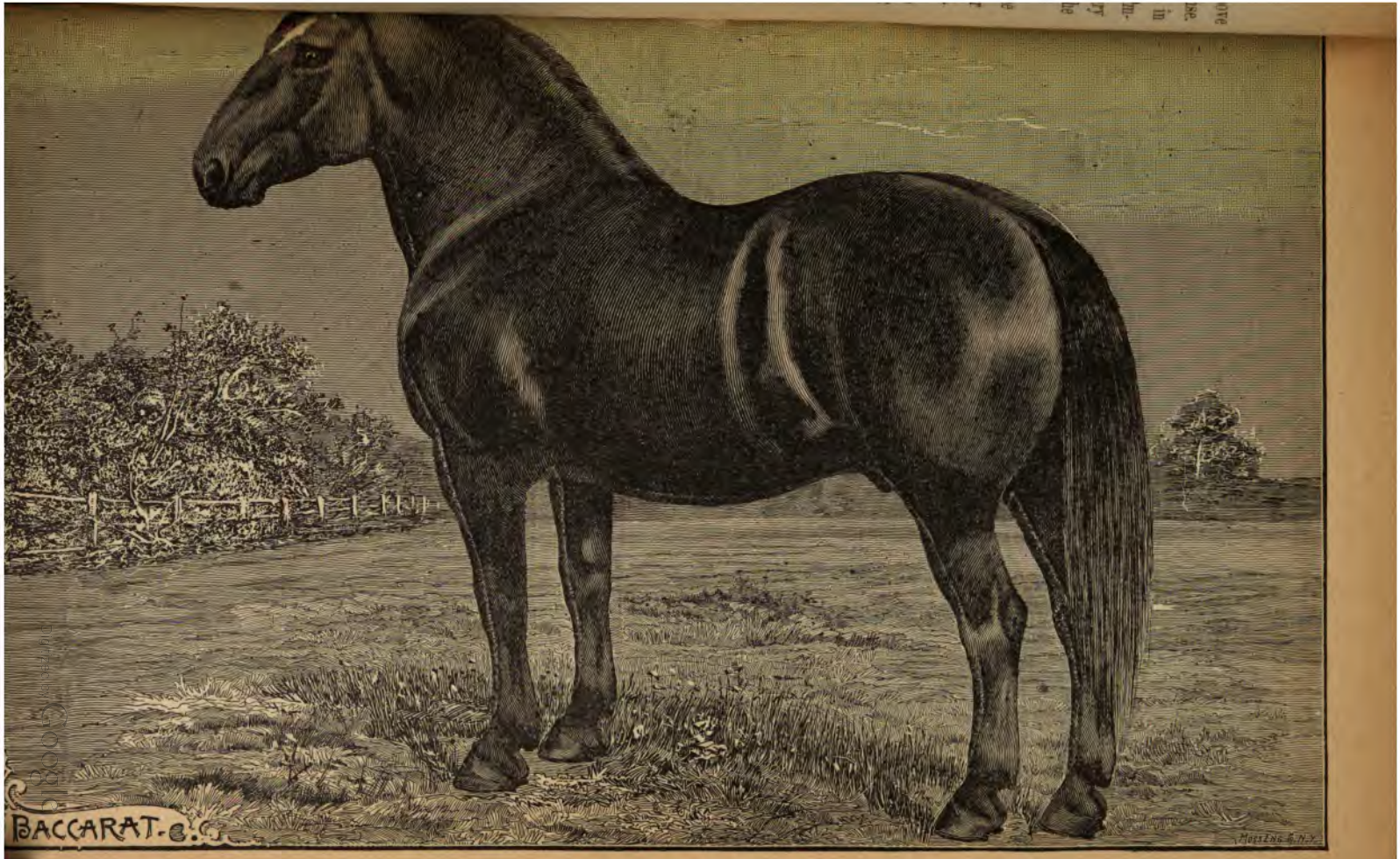

"Baccarat," 11327 (18639).—Owned by Kellogg Stock Farm, Green Bay, Wis.

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President Mitchell — Mr. Bessy not being here on account of sickness, I will call upon Mr. Morrison, superintendent Farmers' Institute. He will please take the chair and take charge of the meeting for the rest of the morning session.

Mr. Morrison — Through the courtesy of the State Agricultural Society, we have been invited to put in a little block of institute work just the same as we would conduct it at Waterloo, Platteville, or any place that one might be assigned. Now I am not going to waste any time in saying anything about the Farm Institutes, as it is unnecessary, but I will say that we have held something like 300 meetings in different parts of the state. They speak for themselves. If they have done any good, or if they have aroused thoughts and inspired more hunger for knowledge in the hearts of the farmers, they have accomplished a good work. We have been trying to answer the question: "How can we make the farm pay better," because we hear all over the state, "What can we do to be saved?" The fact is hard times are upon us, prices have been going down and down until the farmer is forced to sell for little or nothing, and the question presents itself: "How can we make the farm pay?" We have been trying to reach the farmers all over the state at these institutes. The topic that will be discussed the remainder of this forenoon session is a very important one, it is the cornerstone of animal husbandry. I refer to ensilage. Some dairymen in the state tell us they would just as soon think of running a winter dairy without a good warm stable as without ensilage. It gives me great pleasure to introduce to you Mr. L. H. Adams, the superintendent of the Experiment farm, who will give you a very conservative talk on silo and silage.

SHALL I BUILD A SILO?

BY L. H. ADAMS.

Before attempting to answer the question whether or no it is wise for the general farmer to build a silo, let us see what kind of a foundation we have for resting our opinion upon.

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It is very hard for the average silo enthusiast to put aside assumptions and extravagant claims for his pet hobby long enough to listen to cool reasoning on the subject and to inquire into the actual facts and see what relation they bear to this new system of preserving feed, whether favorable or adverse.

The experiments I shall quote were made at your own station, under the direction of Prof. Henry. We have made numerous feeding trials on this question of ensilage vs. air-dried fodder and the particular experiments that I shall call your attention to were not selected for the purpose of giving you the bright side one way or the other, but rather a knowledge of how our experiments run in this direction. In order to avoid repetition while discussing the experiments, I will first explain in detail, our mode of instituting comparisons between ensilage and air-dried fodder corn. The corn used for these experiments was grown in drills, one stalk in a place. The rows of flint varieties were three feet apart, for Pride of the North and similar dent varieties, the rows were three and one-half feet wide, while B. & W. ensilage corn was drilled in rows four feet apart. Enough of each variety was planted so that after filling a silo, an equal quantity would be left to be cured in the shock. The corn in all cases (except that of the B. & W. fodder corn) was left standing in the field until the grain had commenced to glaze or dent. The team would go to the field in the morning, after the dew was off, and a certain number of rows would be cut the entire length of the field, loaded on to the wagon at once and hauled to the barn where it was first weighed and then run through the cutting machine, into the silo. While that load was being cut, the team would be hitched to another wagon and the same number of rows running parallel to the ones cut for the first load would be loaded on the wagon, hauled to the scales first, and drawn then to an adjacent lot where it would be shocked up in the ordinary way. This process of alternating one load to the silo and the next to the shock, would be kept up until the silo was filled, after which it was sealed up at once. The corn put in shock, would be left out until

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it was sufficiently dry to be stored in the barn, at which time it would be packed away in such a way as to prevent loss by moulding, and preserved for feeding in as good condition as it was possible to have it. When the time came for feeding, it would be run through the same machine that the ensilage was.

For the feeding experiments not less than four healthy cows in full flow of milk would be selected. Two of them would be fed ensilage for a varying period of from two to four weeks, the other two would get the air dried fodder for the same length of time, at the close of the first period the feeding would be reversed. The two animals that had ensilage on the first period would be given dry fodder on the second, while those that received dry fodder at first would finish up the experiment on ensilage. Whatever grain was fed to the cows while on the experiment would be of a uniform quantity as well as quality. A week of preliminary feeding always preceded the beginning of the experiment and the commencement of the second period. The purpose of this was to get the animals filled up with the feed that each lot was to get so that there would be no sudden fluctuation either in the weight of the animal or yield of milk. So much for the manner of carrying on the experiments, now for some of the results:

On one experiment where the ensilage and dry fodder used was made from a large variety of sweet corn and the feeding lasted for a period of forty-two days; 4,960 pounds of ensilage produced 1,688 pounds of milk, from which was made 62 pounds 3 ounces of butter; 1,227 pounds of the same kind of corn dried produced 1,487 pounds of milk from which was made 58 pounds 11 ounces of butter. Excess in favor of ensilage 201 pounds of milk and 3 pounds 8 ounces of butter.

Another experiment with B. & W. fodder corn and twenty-eight days of feeding gave the following results: 3,600 pounds of ensilage produced 1,100 pounds of milk, from which was made 44 pounds 10 ounces of butter; 829 pounds of the same kind of fodder air-dried, produced 113 pounds of milk from which was made 14 pounds 9 ounces

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of butter. Excess in favor of fodder 13 pounds of milk and in favor of ensilage 1 ounce of butter.

A second experiment with B. & W. fodder corn preserved in the silo whole (without being run through a cutting machine) and fed to the cows in that condition, was fed against the same kind of corn air-dried and placed befooe the cows in the same manner the ensilage was, whole without being cut up,and the following results were obtained: In eighteen days of feeding two cows ate 2,298 pounds of whole ensilage, which produced 694 pounds of milk from which was made thirty pounds four ounces of butter. In the same length of time as stated above two cows ate 887 pounds of air-dried fodder, fed whole, which produced 715 pounds of milk from which was made twenty-seven pounds fifteen ounces of butter. Excess in favor of air dried fodder twenty-one pounds of milk, and in favor of ensilage two pounds five ounces of butter.

It will be observed from the experiments I have cited that while ensilage when fed as an entire ration does not produce anything like remarkable results, it does at least hold its own, and that is doing a great deal, for the air-dried fodder that was matched against it was in excellent condition and of much better quality than can ordinarily be obtained on the farm by the common practice of stacking, or leaving it in the shock.

Let us now look into the merits of ensilage for beef production. Eight steers, six of which were three years old and two were two years old, were divided into two lots of four each, one lot received ensilage only, while the other lot received ensilage, shelled corn and bran. The feeding lasted for a period of thirty-six days with the following results: The lot getting ensilage, only ate 7,898 pounds, which was a trifle over fifty-four pounds each, daily, and the daily gain per head was one and one-half pounds. The lot that was fed grain in addition to ensilage ate 3,502 pounds of ensilage, which was a little over twenty-four pounds each daily, together with 2,108 pounds of shelled corn and 950 pounds of bran, the daily gain was 3.7 pounds.

Four hogs ran with the steers getting grain and by feed-

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ing them 92 pounds of shelled corn in addition to what they picked up behind the cattle, they made a gain of 100 pounds.

It required 558 pounds of ensilage to make 100 pounds of gain when there was no grain fed with it. Figuring ensilage at $2.50 per ton the cost of making 100 pounds of increase with ensilage alone was $4.44.

To make 100 pounds of gain with steers and 100 pounds of gain with hogs required 669 pounds of grain at $15 per ton, $5.02; 654 pounds of ensilage at $2.50 per ton, $.82, total $5.84. If we allow that an acre of land will produce twenty-five thousand pounds of such ensilage as was used on this experiment since, 3,558 pounds of ensilage made 100 pounds of gain, an acre of land would give over 700 pounds of gain with the class of steers used on this experiment.

Here are results that will justify loud praises for the silo, but it should be remembered that 25,000 pounds of corn per acre is a pretty heavy yield, and also that every pound of food value that is put in the silo is not taken out, a part being destroyed by the heat that is generated after the silo is filled and sealed up.

In summing up a reply to the question that I set out to answer, it may be readily seen that if I rest my opinion on the experiments on milk production that I have cited to you, I will not be justified in growing very enthusiastic over the silo, but there are other advantages offered by the silo system over that of curing in the shock, that must be taken into account.

In the first place the silo offers us the best opportunity to harvest and preserve our corn of any means that we can employ, and that crop is of more value than any other one that is grown on a stock farm. The silo enables us to take the corn when it is at its maximum of value and place it where storms will have no effect upon it, and where it is available at any and all times, and in a condition to be placed before the cattle with a great deal less labor than it is possible to handle the air-dried fodder when it is stacked at a distance from the barn or frozen fast to the ground in shocks.

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Inasmuch as the regulation of prices is beyond our control, the only thing that is left for us to do, if we are to make a profit on our beef and dairy products, is to reduce the cost of production, and this means that we must raise our forage crops cheaper, after that is done we must get the feed to our cattle with as little outlay and expense as possible. It costs about one-eighth of the expense of producing a crop of corn to husk it alone. One more eighth may be deducted for the grinding, these two items of expense are rendered unnecessary when the corn crop is preserved by means of the silo. Right here I will give you the results of a few observations that I made the past winter on the question of the relative digestibility of corn from the silo as compared with corn that was air-dried. During the early part of the present winter we had four cows on an experiment with ensilage against air-dried corn, of the Pride of the North variety, preserved ears and all. Two of the cows were fed ensilage and the other two received the same kind of fodder corn air-dried. I noticed frequently in passing through the stable that the cows that were getting the air dried corn were voiding a great deal of corn in the excrement, while those fed upon ensilage did not appear to be passing any undigested. My curiosity was at once aroused to know just what per cent. of corn each lot of cows was excreting. I therefore saved the manure from each lot of cows for a period of twelve hours and then carefully washed and sieved the grain all out of it. The glass jar that I hold in my right hand (exhibits two jars) contains the corn that was excreted by the two cows getting ensilage for a period of twelve hours, and it represents 1 per cent. of the amount of grain that the two cows ate during the time that the manure was saved. The jar in my left hand contains the undigested grain that passed through the second lot of cows that were fed upon air dried fodder with ears and all cut up together, and it represents 10 per cent. of the amount of grain that the two cows received for the same length of time that the manure was saved.

This question of the greater digestibility of ensilage, together with the fact of its affording us a food of a succu-

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lent nature at a time of year when we most need it to keep our animals in a healthy and thriving condition, will in my opinion warrant us in saying that the silo is a valuable adjunct in animal husbandry, and that every well regulated farm should have one upon it.

The President — Mr. Adams' paper is now open for discussion?

H. C. Adams — I wish Mr. Adams would stand up while I ask him some questions.

L. H. Adams — Fire away.

H. C. Adams — You say you instituted a comparison between air-dried fodder and ensilage?

L. H. Adams — It was corn cut at the same time the corn was put in the silo. It was hauled to the scales and weighed, and then returned and shocked up in the ordinary way in shocks, and allowed to stand until cured through and then hauled and put in the barn. You cannot duplicate the way it was cared for on the farm. One of the great advantages that the silo has over the air-dried system is that you are just as sure of saving the corn crop as you possibly can be. One year you can do that by the air-dried system and it will come out all right, but another year it will heat and mildew. With the silo you can count upon saving the feed just as you can count upon taking water out of the well.

H. C. Adams — How do you make the allowance between a certain number of pounds of ensilage and dry fodder?

L. H. Adams — The chemist attends to that.

H. C. Adams — The corn used dry and the corn taken out of the silo were both weighed and put in just the same?

L. H. Adams — Just the same. In all of these experiments we took pains to have them as uniform as possible. one load was hauled up, weighed and run through the machine and put in the silo. The next was cut and hauled, weighed and put into the shock.

Mr. Gordon — Was the dry fodder cured in a warm, dry fall or in a wet one?

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L. H. Adams — The last three falls have been exceptionally fine for curing dry fodder.

Mr. Gordon — What would be the effect of some of our wet Wisconsin falls?

L. H. Adams — The results would be disastrous undoubtedly. There is in dry fodder a sufficient quantity of water to save it for feed.

Q. How long did you find it necessary for this corn to stand shocked in the field before bringing up to put in the barn?

L. H. Adams — Thirty days.

Q. What would be the difference in that experiment if you had simply taken corn from an ordinary shock permitted to stand exposed to the weather, and fed it to the cattle intact and made a comparison with that kind of feed and the ensilage?

L. H. Adams — There would have been a loss in round numbers of about one-third of the crop.

A member — The loss will be greater in this wet corn than if it was dry.

L. H. Adams — I am not prepared to say that. We have had just about as much heat develop in the corn when matured as when green. We have had it cook at 145 and 150 degrees. We were rather inclined to think we took more out of the silo than we put in, on the contrary, we do not take out as much as we put in. The least loss we have been able to get at the Experiment Station is 12½ per cent.

W. H. Morrison — What has the loss been where you put it up dry?

L. H. Adams — All the way from 12 to 30 per cent.

Question — Has Mr. Adams had any experiments with the Mammoth southern corns, sweet corn?

L. H. Adams — We have never put sweet corn in the silo excepting Stoke's Evergreen.

Mr. Gray — As I understand it there is a loss of twenty to thirty per cent. Is it in the feeding elements?

L. H. Adams — Yes, in feeding elements. You cannot have the heat in the silo without burning up something. It

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loses more in the heating process. There is always two or three inches waste in the top.

A member — Do you think, Mr. Adams, that this heat, 140 and 150 degrees does not burn the corn, doesn't it look dark as though burned.

L. H. Adams — I have seen corn at the Experiment Station that was black.

Question — Doesn't it depreciate the feed value of the corn? Don't you think it would?

L. H. Adams — There is a certain per cent. of the feed value gone. I do not know exactly how much.

Mr. Gordon — Is there any need of heat in the silo? In the east they have been trying experiments with heat and without heat. Is there really any need of it? They say where they have tried without it in the east they have sweet ensilage.

L. H. Adams — It was claimed that in the early processes of preserving the feed that the heat was necessary for the making of sweet fodder. But the heat is not necessary and we would gladly do away with it if we could. There is no process I know of in building a silo that will enable us to get rid of the heat..

H. C. Adams — How do you know it is not necessary then?

L. H. Adams — We built slowly and let the heat develop and we have built just as rapidly as possible in order to prevent so much heat and have had just as sweet ensilage as any one would like to get.

H. C. Adams — What did the heat average?

L. H. Adams — It did not reach 150 degrees, it averaged 138 degrees.

Mr. Broughton — Will a heat of 120 degrees Farenheit cook the corn in the silo?

L. H. Adams — No ,sir, I never saw roasting ears taken from the silo just ready for the table.

A member — I do not see why it need heat so much. Water in a vacuum will not boil at 130 degrees.

L. H. Adams — In a vacuum.

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A member — Is not the silo a vacum also?

L. H. Adams — To a certain extent.

Mr. Arnold — I would like to know if your Experiment Station has ever tried the habit of wetting the ensilage?

L. H. Adams — We did in the early years but I do not think we have done it for quite a while.

Mr. Arnold — How do you know it is to the advantage of ensilage to weight it?

L. H. Adams — I am not certain about that. We know it is necessary to pack it tight enough. In the case of clover it is a good plan to weight around the sides and in the corners.

A member — While you are having experiments our farmers are trying experiments also. We have in our county a silo that has been running for twelve or thirteen years. Mr. Mars has tried weighting and tried without weighting. I had a conversation with him the other day and he says he is going to weight his silo after this — when he weighted his silo he never had any spoil. He says the weight tends to keep a uniform pressure. I am satisfied in my experience that the gathering of heat is more the result of the matured state of the corn than otherwise and the corn well matured will heat sufficiently if it is filled rapidly or not. Put in one or two layers and let it get warm and then fill rapidly. The heating process does tend to sweeten the corn and when you do not have the heat it will sour and will tend to scour the cattle.

President — We would like to hear from Prof. Henry.

Prof. Henry — I come forward to say that I understand Mr. Thom has a paper upon the silo which he will read tomorrow and if this is true I dislike to forestall the facts that Mr. Thom would like to bring out in his paper. The silo came in with a furor. It was started by wealthy, intelligent men in this country. The farmers took to it slowly. At last the practical farmers have come to fairly consider the question and that is the reason it is adding so much interest to this meeting. At this time of course the thrifty, practical farmer is now considering the subject. The silo has lived in spite of its friends and has claimed

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the attention of such men as Edward Dickenson and others. From the experiments at the station I believe the silo has come to stay so far as the average thrifty working farmer is concerned, and that is the class I am working for and interested in. That every man can save fodder in some way and in some condition I admit, but the thing is to save it in shape to do the most good, to derive the most benefit from. The silo has worked its way in spite of the prejudice of the farmer who thought it was an aristocratic notion to cook feed for the cattle and that it was born but to die. A few years ago they were considered expensive but are gradually coming within the reach of every one. An ordinary silo built in the ordinary way preserves the corn as well as the best systems of other ways of preserving it. Prof. C——— says he has a silo that does not heat over 85 degrees, and I think that the university farm will have a silo that will not lose over 5 per cent. of what we put in. Look upon this question and consider it and compare the work it has done with the ordinary ways of preserving fodder. There are going to be more silos built. Remember that.

A member — I would like to ask a question or two.

Prof. Henry — I do not think we ought to forestall Mr. Thom upon his paper on the subject of the silo.

Mr. Gordon — Are we as dairymen putting too large corn in our silos, we that take our ordinary Wisconsin dent crop and put the most or half of it into the silos, are we going to feed our dairy cows too much green?

Prof. Henry — If you raise it for the value of the crop I think there is too much. I would take the ear down to one-half or 2-3 rods its full size.

Mr. Gordon — Feed less of the ensilage and more hay?

Prof. Henry — More clover hay.

WEDNESDAY, February 5, 1890, 2 P. M.

Chairman — The president of the Short-horn Breeders' Association is a young man whom Wisconsin ought to be proud of. He has paid generous prices for animals to be brought into Wisconsin, and the result is he has a herd that

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will compare favorably with any herd in the United States. I have the pleasure of introducing the president, Mr. William Jacobs of Madison.

W. H. Jacobs — *Ladies and Gentlemen; Members of the Wisconsin Short-horn Association:* Custom has ordained that the president of this association shall open the annual sessions with an address. It is deference to this custom, rather than a desire on my part to attempt to entertain you, which induces me to ask your hearing for a little time. This is your meeting, not mine; I am merely the agent chosen by you to facilitate the expression of the thought and will of this association, and it is scarcely becoming that I should consume valuable time which of right belongs to you. Yet "custom makes laws," it is said.

No fitter occasion will be afforded than in the opening of this address to extend to you the assurance of my appreciation of the consideration shown me in electing me to the presidency of the Wisconsin Short-horn Breeders' Association. It is sometimes lightly esteemed to be thus honored; I do not so consider it. The duties of the office are merely nominal, it may be said, save those involved in presiding over a convention of cattle men who have shown themselves competent to make such a meeting interesting and profitable; but an election to this office evidences the fact that the one thus honored possesses the esteem and confidence of his fellow breeders; and this is much. It is on this account that I thank you for the distinction accorded me.

Those of you who have followed the reports in the live stock press of the meetings of Short-horn breeders, imagine that you can forecast the direction of this address. In this connection I am reminded of a story recited years ago of a certain priest who for a long time had charge of the spiritual affairs of a parish. Upon ascending to the pulpit steps one Sabbath morning at the accustomed hour of service, he thus questioned his parishioners: "My friends, do you know what I am about to say to you?" And his auditors, thinking they were again to hear his oft-repeated admonitions, replied, "Yes, Father, we do." "Then," said his reverence, "it is not necessary that I

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should tell you. You are dismissed." Upon the succeeding Sabbath, promptly at the hour, the holy father appeared before his congregation with the same inquiry upon his lips, "My friends, do you know what I am about to say to you?" Puzzled enough by this time, his congregation made reply that they did not know. "Well," said he, "it would be a pity to take your time to tell you what you don't know and probably do not care to hear. You may go home." Yet again the third Sunday, their counsellor in things spiritual stood before them with the identical question, but this time his people had prepared for him. To the question, "My friends, do you know what I am about to say to you?" reply was made: "Some of us do and some of us do not, holy father." "Then," quoth the witty but indolent priest, "those who do may tell those who do not," whereupon he withdrew to his coveted repose.

Doubtless, I say, some of you may think you already know what will here be said, not because I have hitherto addressed you in the words of which this will be but a repitition, but because it is "fashionable" nowadays. You know we Short-horn men talk much of fashion, to harp on one or two strings in discussing the condition of the cattle breeding industry. Perforce of circumstances, I shall touch upon some of these strings, but I trust the chords which I shall strike will not resolve themselves into the doleful, dismal, hopeless minor, but will resound into the inspirating, encouraging major key and bear in the sound the prophecy of better times to come. We are in an era of agriculture depression. I observe that none ef you are surprised at this statement; it does not startle you as would the announcement of an earthquake havoc or the assassination of the President. It is one of the facts of which all in this convention have a very unpleasant experimental knowledge. It is a fact, undisputed, undisputable, and that's an end of it. But it is also a fact, and herein issue is taken with some who have spoken on this subject in other states, that other industries and lines of business are also in a state of stagnation; and although the agriculturist seems to be deep in the mud, the other fellow is in the mire

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to an almost equal depth. This is said, generally spreading to be a time of over-production. I prefer to term it, as was suggested by a learned college president from this rostrum a few years since, an era of under-consumption, the effect of which is precisely similar but the cause and remedy totally different. With this phase of the situation, the statesman has to deal, and it is enough in this connection to know that the problems involved are receiving careful attention from the most thoughtful minds of the present generation of law givers.

Coming nearer home the cause of the "sickness" of the cattle breeding industry, and hence inclusively the Shorthorn breeders' business is of course the "Big Four." So at least we are told time and again. Since from eastern seaport to Pacific slope, there rang the cry "the Chinese must go"; no denunciation has proved more popular than that raised against the dressed beef operators at the Chicago yards.

Without stopping to consider the subject — for the United States senate now has it in hand; admitting freely that a baleful influence is exerted in the market by these big buyers; granting that the railroads with their rebates are back of the extortions of the Kings of Packingtown, I yet deem it entirely proper to say that if the same amount of energy expended by cattlemen in berating the "big four," had been directed in practical measures toward the eradication of the low-bred beast, under the rallying cry "the scrub must go," we should ere this have seen the salvation of the cattle industry. I hold this proposition to be incontrovertible because it is the presence of this same scrub in almost countless thousands in the market, which enables the buyers for the dressed beef plants, to hammer down the prices on all grades, poor or choice. It is well enough to invoke legislation for the suppression of repacious, extortionate "combines"; it is *better* to sweep in front of our doors before appealing for public assistance. It was Prof. Samuel Johnson, when addressing a Michigan convention of Shorthorn breeders, who emphasized the necessity for "personal legislation." This does not need supervention from execu-

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tive or judicial power to secure its enforcement. Like charity, it begins at home, and unlike that quality which "suffereth long," it does not "*cover* a multitude of sins"; it *prevents* the sinning by shameful wastes through indolence and improvidence. If you carry with you but one thought from this address, let it be this statement upon which I lay all possible emphasis: the most effective weapon fashioned for fighting eras of depression in prices of low stock is *improved blood.*

"Every dog has his day." Into this homely aphorism of the common people is compressed a world of philosophy. We younger men know it as an historic fact; you gray-haired veterans, rich in that wisdom which comes of age alone, have learned it of that best of teachers, experience. Cattle are low; but on that fact shall we predicate that they will always be low? Not so. Unless the lessons of the past are to go for nought, we are justified in predicting from that very fact alone if necessary, that they will go higher. No truth is more firmly established in the history of the commercial world than that prices for the products of man's labor and nature's bounty swing pendulum-like from extreme to extreme. "Slumps" in hogs are so common that the man who undertakes feeding pork for the markets, does so with a clear understanding that, as the darkies sing, "It's sometimes up an' it's sometimes down"; but as the genial tempered African, despite his ups and downs, manages to extract his share of enjoyment from the world as he goes along, so the thrifty hog raiser, allowing for the turns in the market — sometimes untoward turns, it must be admitted — does not fail to reap his reward.

We do not have to hark back many years to find sheep in the doldrums. Men blind to the changing conditions and negligent of their flocks, suffered loss until they had only a kick and a curse for those golden-hoofed, wealth producers, and were frantically imploring governmental aid. And now? Why they are fairly scrambling over one another in their wild haste to stock up again with sheep! Lambs at $5 to $7, *pay* and pay well. Yet five years ago those who

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pluckily stuck to their sheep through thick and thin, mindful to prune and weed and improve, were scoffed at and derided by short-sighted men who were sure sheep husbandry was headed straight for destruction on the cannon ball route.

That this history will repeat itself in the cattle industry, I am here to unhesitatingly affirm. I not only affirm it in word; I affirm it in deed. My "money talks" in this instance, if you will permit the use of this expression with rather a "sporting" flavor. I am in the cattle business for revenue only; it is true that I love my Short-horns and am anxious for the advancement of the interests of the breed. I enjoy the possession of my herd, but for amusement merely, I should have to turn my attention to something less expensive and care-demanding. I have backed my judgment with my money and that I am not alone in my opinion as to the future of cattle, I submit the testimony of a witness who is surely competent. Said Mr. Phil. Armour recently to a personal friend in Chicago, who owns a herd of pure bred cattle: "You fellows had better wear out your old clothes now; the time is coming when nothing will be too good for you."

Observe the facts as related to our own particular industry—the raising of Short-horns. Under the depression of the past two year, hundreds of pure bred steers have been started in at the feed lot and thousands of cows have gone to the butcher. Indeed, there was even a scarcity of good Short-horn bulls in some parts of the country last spring, and prices on lusty, thick-fleshed males ranged from $50.00 to $75.00 higher than the previous year. Rather than risk the uncertainty of sale, many breeders have continued to turn their bull calf crop into steers, until it seems certain that an actual shortage of good bulls will exist the coming year. One admirable result of low prices is the general improvement of the character of the Short-horn herds throughout the state. Many an old cow—and younger one, too—has found her way to the proper destination—the shambles, because in form and feeding qualities she was a degenerate descendant of worthy ancestry. The pruning

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process in many instances has been severe on the owner, but it has been the making of the herd and will eventually demonstrate to the breeder himself the fact that every cloud has a silver lining. Directly bearing upon this point of the improvement of our herds is the question, so much discussed at present, of the milking qualities of Short-horn cows. "Softly," do I hear some one say, "this thing of a general purpose cow is a delusion?" Well, some of *you* may have that *idea*, but *we* have the general purpose *cows*. I am well aware that from the public teachings of several prominent agriculturists in the state, the impression has gone abroad that the "Wisconsin idea" is a special purpose cow. Well, so it is—for a special purpose man, on a special purpose farm, in a special purpose locality. But the state of Wisconsin is altogether too big to have only one idea of a cow. Great as are her dairy interests and proud as we are of the rank she has taken among the butter and cheese producing states, the fact yet remains that not all of her farmers are fitted by birth, taste or education for sitting on a three-legged stool and laboriously extracting pailfuls of foamy milk from the bulging bags of old "Brindle" or "Snowball." While we delight to look upon the pleasing pictures of the neatly attired, ruddy-cheeked dairy maids bearing airily to the spring house the brimming pails of milk (only in most cases it is the hired man with a blue flannel shirt, overalls in boots and a quid of tobacco in his mouth, who does the milking), and while tempted by the picture we sometimes essay to emulate the apparent joys of the milkmaid, a vigorous swipe or two in the eyes from the old cow's tail, quickly drives all the poetry out of the operation. And as for acting as wet nurses to a lot of bawling, cavernous-stomached calves—why, some of us firmly beg to be excused. Man cannot live on butter alone; he must have beef as well, and while we raise no contention with our dairy friends we insist that the state is broad enough and diversified enough in its natural resources to produce both beef and butter. And if those who would teach us all to become dairymen and who prove by figures—which never lie but prevaricate terribly

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sometimes—that they have ever so much better a thing than we, would only be content with their advantage, all would be well. We have had our "innings" for many years; we will have them again.

"But for the raising of beef profitably, we want purely beef breeds," do you say? This is not necessarily true, and herein do we fall out with our special-purpose cow advocates. To the oft-repeated assertion that there is no general purpose cow, we oppose the indisputable *fact* that we have such in our Short-horn herds. Special purpose men may figure out such a thing on paper to be an impossibility, just so long as they choose. *They* have the figures; *we* have the general purpose cows.

The whole question is a very simple one and long-winded discussions on the subject are merely much ado about nothing. There is a large per cent. of our farmers who do not want to practice dairying either from disinclination or remoteness from market. They do keep cattle as every farmer should, and these cattle have calves, as all cows should. Experience has taught them that under existing circumstances they can not afford to keep a cow for a return only of one calf per year. Other men in other states and under different conditions, can do this; the average Wisconsin farmer can not. He must, therefore, have a cow which will raise him a calf and at the same time pay for her keep by her yield of milk. This, I say, is a natural necessity. Nature never made a want without supplying the means of filling it. That means in this instance, the milking Short-horn, the "double-decker," the broad-backed old "fill-pail," with swinging udder distended at milking time to generous dimensions, and yielding a foamy fluid at the quality of which no man has yet dared to sneer. The frame of the feeder is there; the level back, well arched rib, broad loin and long quarter, all evidence her ability to turn feed to good account and make beef profitably. The roomy paunch, bulging milk veins and well filled udder, testify no less conclusively to her capacity at the pail. This is a general purpose cow; she is a necessity to our present methods of profitable agriculture; and because she is a necessity, she

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exists. Moreover, she is a Short-horn. We have just such cows in our herds; if we have not as many of them as we should, it is our own fault. The dual capacity of beef and milk production inheres in the breed. It was co-existent with its formation and through gross neglect for many years, it persists as if in protest at the course pursued by those in whose charge this noble breed has been for the past quarter of a century.

The Wisconsin agriculturist to-day needs just such an animal which has aptly been named the "granger's cow." Other breeds claim her possession; the dwarfed Ayrshire brought from the scant pasturage on the bleak hillsides of Scotland, aspires in vain to this title. The capacious uddered black and white Dutch cow, queen of all milk kine, which for years has grazed the luxurious pastures of dyke-hemmed Holland, pleads fitness for this place; but the practiced eye of the feeder turns quickly from her gaunt, raw-boned frame and cavernous paunch; the Red Poll, newest claimant for public appreciation, seems to rank in these particulars the other candidates named, but none of these can for a moment stand in the presence of one of the old-fashioned, square-framed, mild-eyed, big-uddered, Short-horn cows, and deny her a clear preference to the title, "the general purpose cow." I have dwelt on this subject because it is one of vital interest to the Short-horn breeders of Wisconsin. It is by no means yet exhausted. The "why" of the undoubted degeneration of the milking qualities in some herds and the "how" of their restoration, I must leave for you to discuss. I should have been neglectful of imperative duty if, in this presence to-day, I had failed to insist upon the recognition of the claims of the Short-horn as a general purpose cow.

In conclusion just a word. Years ago there was proclaimed "an age of reason" in theological matters. It is now apparent to the most casual observer that we have reached an age of reason in the breeding of Short-horn cattle. Time was when speculation ran riot and pedigrees were the subject of regular quotations somewhat as are stocks and bonds on 'change. Pedigree now-a-days, for the

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practical user of Short-horn cattle, lies primarily on the back of the beast. Perhaps a stronger meaning may attach to this utterance when I say what most of my fellow breeders already know, that I am somewhat a respector of pedigrees, and I do not here depreciate the value of pedigree. I have paid money for it in the past; I shall pay money for it in the future, but not unless that pedigree is "countersigned" by flesh on the back of the beast. When Short-horn men study pedigree *not less*, but individual merit *more*, then shall we see the salvation of the industry. To this end it must come; the wise man will thus order his course.

CAN BEEF BE PRODUCED IN WISCONSIN AT A PROFIT.

BY H. C. THOM.

To the question: "Can beef be produced in Wisconsin at a profit?" one could say no and be seated with objections from few, if any, feeders, while the phiz of the dairyman would beam with complacency. Feeders can ill afford to let affairs, which so interest them, go by default, because there is no man brave enough (barring Senator Vest), to champion an industry to which civilization owes much; an industry which touches every man who has raised a male calf, or lugged a soup bone from the market. An industry which extends throughout every state and territory and affects every man's household, unless it is sanctified throughout the whole year to lent. Flesh has always a market. Some one is bound to furnish it to our millions. Feeders have sworn a mighty swear that they could not afford to continue the business. Many have given up in despair. They are going to try the cow. They know not how she is made, let alone how to milk her. Herdsmen of the west have quit their calling; some of them are robbing stage coaches. It may pay a little better but it takes more courage to hold up a driver than it does to tie up a steer. We are a little down in the mouth in this sec-

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tion. A catch calf that runs with its mother the first year, and the next two with grass, straw and water, doesn't kindle the Chicago stockyards with enthusiasm. The scrub has been looking for its place for many, many years. At last 'tis fonnd thank God, 'tis at the bottom of the market report.

EFFECT OF CHEAP TRANSPORTATION.

Those breeders and feeders who think begin to see how railroads affect their trade. The circle of competition has been enlarging very rapidly for a number of years. Chicago, the center, with a circumference of 200 miles away, meant the only competition. Kansas City dressed beef is now laid down on our markets before it gets quite cold. In talking with a conductor on the Burlington road, some few weeks since, he stated that the week before he ran from St. Paul to Chicago ahead of an express with a train-load of cattle. It costs but little more to ship beef from Kansas City than it does from Madison. Do you wonder that the business does not pay if we make poorer cattle here than in Kansas? Our only protection in the past has been that but few were in the business, and that it cost so much and took so long to bring cattle from distant points. These safeguards have all been knocked down. There is one salvation for us and only one; that is skill. Skill in breeding and skill in feeding. Any leather-head can have a calf or buy one. It is directly in his line of business. He can keep it alive if the weather is propitious or if he carefully reads Sergeant Rhodes' reports, to know which way the wind blows. A machinist commands better wages than a ditch digger and works no harder with his hands. There is not half the competition in brains that there is in brawn. Wood must be hewn, but less money secures that result than it takes to fashion the mind in the school room or the souls from the pulpit.

PROFIT IN BEEF AT PRESENT PRICES.

The trouble with the cattle business at present is not so much the low price they bring, as in the kind of cattle that are thrown upon the market. Good stock is bringing bet-

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ter than $5 per hundred to-day, while most cattle are changing hands at from $1.75 to $2.50. Beef can be made on Wisconsin farms at $4.00 per hundred at a fair profit. Lower prices than $3.25 are ruinous to most feeders. As near as I can estimate, beef can be produced at about $3 per hundred. That this can be done can be figured as absolutely as that butter can be produced at thirteen and one-half cents per pound, or that calico can be manufactured for three and one-half cents per yard. Three conditions are essential in order that meat can be produced at this figure: First, good stock; second, economical feeding and handling; third, early maturity. In some respects cattle are like men: the lean and hungry class, although great consumers, are rarely fat ones. It makes some men tired to carry around what they eat; others, of closer build and more quiet consciences, are content with what they get and ruminate over the cud of eternal fitness of things and grow fat. The racer is the result of long years of careful breeding. The bullock, although of greater bulk, represents just as much skill as the courser.

HOW THE SHORT-HORNS WERE PRODUCED.

There is a strong sentiment in many minds against in-breeding. In a broad sense the tide may set the right way. Many of us undoubtedly need training to know just what to do. It might be well to say here, however, that the Short-horn breed was best developed and perfected in the hands of a man who brought this about by the severest practice of in-breeding. The animals grew under his careful eye in grace and beauty. Desirable points were strengthened and developed; weak ones were eliminated and destroyed. An abiding faith that skill would win brought about the grandest results, made the name of the man immortal and left a race of cattle that lovers of graceful lines and colors will fall down and worship, for varily they were golden calves whose mothers would sniff at the sacred cow. The feeding and handling can best be brought out in the discussion perhaps, because I can then call to my aid men of greater age and experience. My experience

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has given me radical ideas on these matters; they may not be progressive; surely they are honest.

IMPORTANCE OF EARLY MATURITY.

The question of maturity next demands attention. Three- and four-year-old cattle are unprofitable. Thirty months is an extreme age to turn off. The first 600 pounds is cheapest. I know of a five-year-old steer that was kept 365 days, eating as many pounds of grain and hay as when four years old, and gained never a pound. Feeding experiments at our Wisconsin Station give ample data to clinch the statement that the quicker the maturity the greater the profit. That feeders complain is not to be wondered at. The stock yards evidence criminal bungling. Matched clear flooring is worth more than cull lumber. A poor ax helve finds a customer only in a plug chopper who splits kindling wood for his wife at the back door and does that little under protest. Yet Mr. Jones, of Dane, county sends a steer to Chicago that makes the average Texan stare, and kicks because he does not get the top of the market. The steer is not to blame, O, no! Jones made him and he pays the freight. Jones would not expect a big price for poor eggs, but he does for poor meat. Experience is not quite so strong in the latter business. When he "goes broke" Jones will wake up. It is all folly to talk of going out of the stock business. It is the true foundation of rotation. Without stock farms will rapidly deplete in fertility. Wisconsin farmers have had a bitter experience and will not be caught again. It takes as much time and costs as much money to restore a lost fertility as it does to clear and break the original homestead.

INFLUENCE OF FOREIGN CONSULS.

I would suggest that the general market might be improved if more attention could be given by our foreign consulates to this great industry. With much regret I am constrained to say that few of them know or care how much could be done in this direction. Nothing but flimsy

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excuses stand in the way of heavy exportation. Many of the so-called rulings are in direct violation of the existing treaties. The thousands who are in the business of beef production; the millions of money invested, should demand recognition and a channel paved to good foreign markets. That herdsmen may not become discouraged, I beg to call attention to the fact that we are growing faster in our demands than we are in skill in breeding and feeding. It is but a few short years since steers were changing hands at $12 per head; just such cattle as we think ought to bring $5 per hundred. What right have we to ask this? This right: that we wish to ride in a carriage. A wagon used to answer. Wheat, so we say, can not be raised for 75 cents per bushel. My father used to raise it for 25 cents, and haul it to Milwaukee with a team and kept up a cheerful whistle and raised a lusty boy with a good appetite. Ah, yes! Luxuries of those days are necessities now. We are fighting the battle of life against greater odds. Our wants are growing faster than means for supplying them and we kick the "Big Four," the steer market, and scold our wife because things are awry.

A TRIBUTE TO THE SHORT-HORN.

A good animal, well matured and finished with a slick coat, with a good distribution of muscle and fat, will bring more money, more content, and smooth more wrinkles and keep back more gray hairs than all the petulant fault-finding that ever rose to heaven. "The eyes of the master makes the animal." Keep the old saying in mind; bind your fortune to the Short-horn. They have had a glorious past; they are steady in the present, and the future is full to repletion of bright promise. 'Tis a popular fallacy that because a thoroughbred costs a large sum that he will thrive and fatten on ragweed and water. Profit comes to no man by shirking responsibility and labor. Give the animal care, treat him kindly, shelter him, feed him, then he will grow under the master's eyes and conform to the measure of an ideal. Out of all this labor and love, will spring a result that will be a credit and honor to all these years of

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line breeding, to the men who have fashioned the Short-horn, by a long term of study, to be a thing of beauty and a profit forever.

DISCUSSION.

President — Gentlemen: We invite discussion.

W. H. Morrison — I would like to ask Mr. Thom a question. At the attendance of an Institute a few days ago I heard the following question propounded, and I would like to hear a representative of the noble Short-horn breed give an answer to the question. The question was this: Is it a fact that Short-horns give milk? (Laughter.)

Mr. Thom — I wish my heaviest duty were no more difficult to answer than this. The best recorded test of the amount of milk given is in favor of the Short-horn. There are probably as many Short-horns in Wisconsin to-day who are paying their owners a profit on the milk product as there are of all the other breeds combined (whistle from audience). That is right. It has been said by the Guernsey men and Jersey men that there is nothing too big for the Short-horn men to claim. In a sense that may be true, but I notice the breeders of the Guernsey and Jersey cows here in the state blow their horns long and loud while the Short-horn breeder as a rule is a sleek, contented fellow who does not find much fault with the ways of the world, and if he find sunpleasantness in his travel he simply skips it and lets the world wag on.

A Member — How is beef produced at 3 cents a pound?

Mr. Thom — A calf will drink 2,000 pounds of milk at 20 cents is $4; fourteen bushels of oats at 30 cents per bushel is $4.20; he will eat $1.80 worth of other forage, making a total cost at the age of one year of $10. A ton of ensilage in the silo costs $1 to place it there. The calf will eat two tons or $2 worth. He will eat ten bushels of oats or $3, making a total cost in one year of $15. The rental of a good acre of pasture is $5, which will support two yearlings, or $2.50 per calf. A steer coming two years will eat six tons of ensilage or $6, making a total cost when he goes on grass, at two years of

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$17.50. A steer of two years on grass, will eat ten cents worth of corn per day for ninety days, or $9. An acre of good pasture will support two steers, fed on corn at the same time for ninety days, which, at $5 per acre rental, is $1.25, making a total cost of $33.75.

A member — In what form do you feed corn?

Mr. Thom — Whole. My experience has been it is the best to feed whole corn.

Q. Shelled or in the ear?

Mr. Thom — In the ear.

Mr. Makin — Is barley good?

Mr. Thom — I have fed barley and found it excellent feed.

Mr. Williamson — In regard to feeding corn in the ear, I would like to know if it is not a good practice to turn it out in the field or pasture and after the cattle are through with it turn in the hogs?

Mr. Thom — Yes.

H. C. Adams — Do you raise your steers or buy them?

Mr. Thom — Raise what I can and buy the rest. There are plenty of men in our locality who are breeding Shorthorn cattle who are not able to carry cattle through the winter, and I find no trouble in picking up cattle though not always just what I would like. Although they weighed 1,400 and under three years of age, they were not what I wanted, the result was I sold lower than I have heretofore, $3.25.

Q. What do you think about a man buying young stock?

Mr. Thom — I had about a car load to turn on the market.

Mr. Morrison — What will your steers weigh when they are twenty-four months old?

Mr. Thom — They weigh 1,200 or better.

Q. How much corn did you feed with your ensilage and how long did you feed ensilage in the winter?

Mr. Thom — I would rather defer that question until to-orrow afternoon or else I will not have anything to say then. Last winter I fed from the 22d of November to the second Sunday in June. I put in a car load of steers com-

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ing two years of age which were fed ensilage and straw only during the entire time and they gained one hundred and twenty-seven pounds each.

Mr. Drake — We raise our calves upon skim milk with a little oil meal, and make as good calves as you can and let them run with the cows.

Mr. Thom — That has been my practice, sir.

Mr. Arnold — Is it best to feed oats ground or unground?

Mr. Thom — I tried grinding oats a long time and unground oats and I am thoroughly convinced it is a great loss to grind oats for feed.

Q. Do you grind barley?

Mr. Thom — I grind barley.

Mr. Williams — Isn't it a good thing to have a pasture?

Mr. Arnold — I think it would be a good plan.

Q. Do you ever turn your steers out on grass early in the spring feeding corn at the same time?

Mr. Thom — The very day I turn them out I feed corn. That is the point I tried to make.

Mr. Williams — I would like to say a word in regard to feeding. There is a man feeding a great many cattle and never turns his cattle out until about the first of June, when his feed is gone and didn't feed corn and has been successful in that way.

Mr. H. C. Adams — I would like to ask the gentleman if he does not find a decided difference in the dairy Short-horn and the common beef?

Mr. Thom — I certainly do. There is a marked difference. Of course if you get a dairy Short-horn they are inferior for beef purposes.

Q. What do you consider the most profitable animal to use.

Mr. Thom — The beef one sure.

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SELECTION, CARE AND MANAGEMENT OF A BREEDING BULL.

BY JOHN B. KISER, Oregon.

In selecting a breeding bull obtain the very best animal that can be secured at a reasonable price. Don't call a price unreasonable if you are called on to pay a little more for an excellent animal than the price of an ordinary one. A few dollars is a very small item in the price of a bull when you take into consideration the difference in value of the services of an excellent bull compared with that of an ordinary one. By the aid of the former you may expect to achieve success. With the latter you are sure of a failure. By all means secure a well bred animal. Let him be a true type of the breed whose name he bears. Let individual merit be the first point to be considered. Back this up with a strong, vigorous constitution and a well-established lineage of meritorious animals. He should be uniform in quality, not strong in one point and weak in another, as his progeny is just as liable to inherit the weak point as the strong ones. With uniformity you can expect uniform results. The class of cows in a herd should, to a certain extent, govern the choice of bulls. If your cows are loose, rangy, overgrown animals, choose a bull of more compact build, an earlier maturing animal. If your cows are close built and under size choose a bull larger and more rangy. If your cows are of a proper form and size, choose a bull of similar form and size. While early maturing, quick-feeding cattle are desirable, I do not advocate the continuous mating of close-built, compact animals, as observation and experience convinces me that such a course will result in deterioration of size. As an old and reliable breeder once said to me: "It is an established fact that when such a course is pursued it is necessary to resort to a coarser and more growthy cross once in a while in order to retain size." I am also convinced that with close-built, early-maturing females their value as

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breeders diminish, they are apt to be shy and uncertain breeders, and furthermore, the mission of all beef breeds of cattle is to increase the size as well as to improve the quality of the common stock of our country. Hence, as a rule, it is best to choose a bull with reference to retaining size as well as early maturity.

While Short-horns stand to-day at the head of all breeds as beef animals, yet they possess dairy strains to an extent with which no other beef breeds can begin to compare. These strains should be fostered, and developed. Therefore do not lose sight of the value of dairy strains in the breeding bull. I would prefer an animal full of life — force of character — to one of less individuality, as he will make a more impressive sire. Although evidently headstrong and wilful, with proper management he will make no trouble. I do not advocate the use of a naturally vicious animal, as a docile nature is a very desirable quality in a herd of cattle. Yet he should possess good, strong, healthy, vigorous life.

The color of an animal while in reality valueless cuts a very important figure in breeding pure-bred stock. It should correspond to the established type of the breed — *prima facie* evidence of purity of blood. Cattle of uniform color are always more attractive than those of a mixed and uncertain color. My model of a Short-horn bull would be one that weighs at maturity not less than 2,000 lbs. nor more than 2,300 lbs., red or roan in color, his nose nut-brown or copper colored, his eyes clear and bright, his head well proportioned, broad and full between the eyes, his horns of medium length, strong and well set, curving in and down rather than upwards; the neck in proportion to his body, not too long or too short, it should be a little full midway between the horns and top of shoulder, and clean cut and slightly arched from the throat to the breast.

His front broad, deep and full. His shoulders set smoothly on his body. His arm strong and well developed. His fore legs wide apart, yet set well under his body. Straight, clean cut and fine from the knee to the hoof. From the top of his shoulder to the root of his tail, straight

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and broad, well filled behind the shoulders, and from point of the hip to root of tail, and strong across the loins. His body good length and depth. His ribs well sprung and closely coupled to the hip. His lower line almost parallel with his upper line. His hindquarters broad and well developed, tied low down. His hind legs straight and strong. He should stand square on his feet, his tail set on a level with his back, small and tapering. His hide loose and mellow. His hair fine, thick and good length. Animals of pronounced dairy strains are usually of rougher build than those of a beef type.

No matter how good a bull you select, without proper care and management he will be a disappointment. There is no animal on the farm that is so often neglected to the extent that the bull is. The majority of farmers regard him as a nuisance, and his presence only tolerated from necessity. A great many as long as they can borrow or get trusted for his services will do so, and when obliged to keep one, keep him in the most shiftless manner, giving him just as little attention as possible, either tied up in a dark, illy-ventilated, filthy stable, where he stands from one week's end to another, fed and watered only when convenient to do so, seldom, if ever, taken out, except when his services are required, or else turned out with the rest of the herd and allowed to wear himself out with excessive and unnecessary services. In a year or two he becomes practically worthless. What else could be expected? Deprived in the one case of all that goes to sustain life and develop substance; in the other case, his substance allowed to go to waste to such an extent, that he has been barely able to exist. He has been expected to perform services such as only a well cared for and well managed bull could endure. Many a fine young bull has been ruined by being turned out as a yearling to shift for himself and do the services of a mature bull, and his owner disgusted and ready to condemn thoroughbred stock, when the fault was not with the bull or stock, but the result of carelessness and mismanagement on the part of the owner.

Would it be strange if the stock from an animal so treated

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would be weakly and a disappointment? What else could be expected from a half-starved, ill-conditioned, worn-out bull? We should aim to keep the bull in good, healthy, thriving condition, not over fat. In order to do this, he should be fed regularly, and at proper intervals, with good substantial food, such as hay or grass or cornfodder, with sufficient grain, such as corn, oats and bran, to keep him in proper condition. We have two bulls in service at present, one has reached maturity. His feed consists of all the timothy and clover mixed that he will eat, with three quarts of ground corn and oats and bran, equal parts, twice a day. The other is still growing and is fed the same as the first, except he is grained a little heavier, receiving five quarts twice a day. He should be watered regularly, and at least twice a day, when kept in good cool box stall in the summer time this is sufficient, but if kept in close hot quarters or exposed to the sun in the summer time, he should be watered at least three times a day. He should be provided with proper shelter to protect him from summer heat and winter cold. A box stall is best as it gives him more freedom and is safer for an attendant, as he can feed and care for him without placing himself in such a position as to take chances of getting hurt. It should be well ventilated and well lighted, and arranged in such a way that it can be darkened in summer time to keep the flies out and thus prevent them from annoying him. His stable should be cleaned regularly twice a day, and his bedding arranged regularly when his stable is cleaned, and should be of sufficient quantity to prevent him from injuring himself by resting on the hard earth or planks which form the foundation of his quarters. He should be especially well bedded in front as it will naturally work back, and, to protect his knees while lying down, as with large animals, whose immense weight resting on their knees on the earth or plank, are very apt to bruise them and cause them to swell, and in time to become permanently enlarged.

His hind hoofs when too closely confined in a stable are apt to grow and become unshapely — not wearing off at all, but turning up in front and preventing the animal from

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walking squarely on his feet. When the hoof gets in this condition it should be shaped properly, by means of saw, hammer and chisel.

He should have regular exercise. The best way to exercise an animal is to have a small lot or pasture into which he can be turned for exercise. We have a small pasture in which, in summer, we keep an in-calf-cow, with which we turn our bulls for exercise. When we have two bulls we ture them out, turn about, one one day, the other the next; sometime one in day time the other at night.

Always handle him kindly and quietly. While if properly handled there is but little danger, yet it is always best to be on the safe side, and for this reason I always use a staff. The theory that a bull should be clubbed to make him know his place, is a very great mistake. He knows when he is kindly treated and will show his appreciation of such treatment, and will show his resentment just as quickly when abused, and when he gets his dander up he is pretty apt to make trouble, and when one undertakes to fight it out with a bull he has got a job on his hands. Better compromise with him, give him an ear of corn or some meal to eat, and call him a few pet names, even if you do not feel just that way. In the nineteen years that Short-horns have been owned and bred at Oakland there has only been one cross bull, and that was the first one that was owned there, and he was spoilt by being too harshly dealt with. Since then we have always treated them kindly, and the result has fully confirmed the wisdom of that course.

A bull should not be put to service before he is fifteen months old, and then should be used carefully, not more than fifteen or twenty cows. The following year he may be allowed to have twenty-five or thirty cows, and the year following may be put to full service. Never allow but one fair service at a time, as one fair service is as good as a dozen.

A young and growing bull requires more care and attention than a mature one. He needs more exercise and requires more feed, in proportion to his age, than a mature bull. Here is where a great many make a mistake, they do

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From Hickory Park Herd of Scotch Short Horns. Property of C. M. SANGER & SONS, Waukesha, Wis.

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not feed the young bull well enough. Therefore he does not make the growth nor develop into that symnetrical form that he would if better fed.

No animal, however well-bred or promising will ever develop into a superior animal without proper care and management. Neither need one expect strong, healthy calves from a half-starved, ill-conditioned, worn-out bull.

To sum up, select the right kind of a bull to start with. Keep him in good, healthy, thriving condition. To accomplish this feed him well; give him plenty pure water, pure air and exercise. Provide him with good, clean, well-bedded quarters. Handle him kindly and quietly. Do not overtax his strength by excessive services. Then, instead of being a nuisance and a disgrace, he will be an object of admiration and a credit to his owner.

THE FUTURE OF SHORT-HORN CATTLE.

By PETER WAKEM, Burke.

The future of Short-horns depends to a great extent, if not entirely, on the breeders of them. If in the future they are to maintain the position which they have attained this year by the ambition of a few breeders, there must be more of a united effort made by all who are interested in the success of this noble breed of cattle. Each and every one must do his part, and not as has usually been the case, leave it in the hands of a few to uphold the claims of the breed. One of the first points I would impress on all breeders, is to have some idea of the stamp of an animal they wish to breed, model as it were, and continually keep that model in their minds in making all their selections of sires to be used in their herds as well as in reserving the increase intended for breeding purposes, for nothing makes a more favorable impression on an intending purchaser than uniformity. You of course would not select the same kind of a model if you were intending breeding for beef as you would if breed-

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ing for dairy purposes, or for the two combined. Each would require a different model, never forgetting your sire is half your herd, if not more so, if an impressive breeder, and that the last few sires on the top of a pedigree are worth double the number ten or twelve sires back. Proof of this you will find in the breeding of trotting horses. You can take the thoroughbred race mare, and breed two crosses of a trotting stallion, and the produce will invariably have more trotting instinct than that of running, and quite often one cross will do it, if the stallion used is an impressive breeder, as is the case with Electioneer and other horses I could name. In selecting bulls for breeding for beef, be sure to get low down, thick fleshed, thick through the heart, square built, blocky animals. Be sure to get a good mellow handler above everything else, as that will tell you whether he will put on flesh rapidly if properly fed or not. In selecting for breeding for dairy purposes you most likely will get them a little higher up, not so thick fleshed, not so heavy in hind quarters, not so short in the neck, finer in the head, in fact not so impressive and "breedy" looking. Some breeders have no model in view, and buy because they are cheap; but the breeder of brains does not stumble through life, but studies his surroundings, and breeds the stamp of an animal, best suited to him and his location, and by attending to his business he makes it profitable. There have been entirely too many cheap sires used for the future good of Short-horns in this state. There are a few breeders, and it is not difficult to count them, who apparently have the nerve to purchase good sires to use in their herds. Because cattle happen to be low it is the height of folly to allow your herd to go backward, either for the want of a first class bull or lack of attention. Some breeders instead of purchasing the best bulls obtainable, will go and buy some cheap brute and decrease the value of their whole herd. In fact they tear down at one stroke what it has taken years of thought and patient labor to succeed in building up. I would like to know what kind of a future a breeder can expect who will go and purchase a sire for fifty or sixty dollars to stand at the head of

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his select herd of Short-horn cows which have cost him an average of perhaps twice as much as he now pays for what is really half his herd. He surely cannot expect a very bright future for his breeding establishment, and the chances are he will be one of those who will say the breeding of Short-horns has gone to the dogs, and will rush over and commence breeding horses. And if he uses the same amount of judgment in selecting the sires that he did in selecting his $50 bull, the chances are that it will not be long before he will rush for something else, and declare that no man can make money either breeding Short-horn cattle or the particular breed of horses he commenced with. The future is not bright for him as a breeder of any kind of stock. Some men have not the qualification to make successful breeders of pure bred stock of any kind, or do anything else and make a success of it.

Many of the men who did not make a success of breeding Short-horns were what should be termed cranks. They ruthed into the business when speculation on pedigree was carried to a great extreme, knowing very little about it, and nothing about the practical part of it. They paid immense sums for pedigrees, often without seeing the animal, either in cash or with a note with a friend on it, very often when they did not know where the money was coming from to pay it, and it was not long before too much paper was floating. Banks got suspicious and one breeder, or rather speculator — they should not be called breeders — carried down another in financial ruin until an animal with a long, rich pedigree was worth no more than one that had a little more individual merit and not so much gilt edge. These men went broke and are now pointed at as evidence that no money can be made breeding and handling Short-horn cattle. Now the chances are a hundred to one that if these same men had gone to Chicago and speculated on the board of trade as they did on pedigrees, they would have gone broke in less time than they did. I have in mind now attending a sale held in Toronto, Canada, when pedigree was booming, and excitement ran high — and champagne too. A bull was brought into the ring and bidding com-

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menced. An American who was at that time a prominent breeder of Bates and Bell-Bates cattle, was stopping with me while on a visit to the leading herds of that country. I was greatly surprised to see the bidding going up so fast; it had got up to about $3,000 when to my astonishment, I found my friend was one of those doing the high bidding. I backed out and got him by the coat tail and nearly pulled it off before I could get him to listen, when I said: "That bull is not a breeder; he gets no calves." He said he did not care; a certain man was bidding on him and he did not want him to get him. But his neighbor did get him, and if I remember correctly, at $3,600. This same man once refused an offer of $12,000 for a bull, a net profit of nearly $10,000. The bull died less than a month afterwards. I saw the man at Chicago in November, with horses; he said a man was crazy to try and make money breeding cattle. Now I do not think it was the cattle's fault in his case. The future is not bright for such men in breeding any kind of live stock, but to the legitimate breeder, who is using the best sires procurable and taking care of his cattle there is still a good profit in breeding Short-horns.

Another very essential point after you have secured the best sire you can get is to start your calves right. Feed well. Do not do as some of those dairymen advise you — feed whole milk for three or four days and then skimmed milk for a month or two, then water and oats for awhile — kind of fool them along until they get large enough to look out for themselves, then dehorn them and declare that the calves were raised at small cost and a profit — not a very large one you may be sure. That will not do, you can take the finest calves of any pure breed and treat them in that way, and not many generations would pass before you would be just as bad as if you were breeding scrubs; and the breeder who treats his calves in that way had a great deal better confine his breeding operations to scrubs, as he could not disgrace them and he could a decent Short-horn. Feed what you grow on your farm — bone and muscle forming foods; plenty of oats, wheat bran, corn meal and all the roots they will stand to balance their ration;

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plenty of tame hay and good water, and give sufficient exercise. Never allow them to lose their calf fat and you can have just as good cattle as any one and raise them at a profit too.

A great mistake is made by many breeders in breeding their heifers too young. Do not breed them until they are two years old, as it only reduces their size and injures the constitution. When your heifers come in with their first calf pay particular attention to the milking. Let the calf suck regularly. Milk udder well out after each time. After weaning the calf milk her until well along to having her second calf, because if you let a heifer go dry six months after having her first calf she will surely want to go dry about the same length of time after having her second calf. Too little attention altogether is paid by the majority of Short-horn breeders to the milking. It was discouraging to read the reports of the different state fairs; there was actually not enough milking Short-horns out to win what prizes were offered by the different state associations and the American Short-horn Breeders' association. Now this is not as it should be. There are plenty of good milking Short-horns which would do great credit to the breed if they were properly fed and tested. And if breeders do not take hold and bring out cows in full flow of milk and have them tested at our fairs by the associations and under their rules, we cannot substantiate the claim successfully which we are continually making, that we have the best breed of cattle on earth for beef and milk combined. We must keep on improving it, or else the future of the breed will suffer in that direction, and that we cannot allow in as great a dairy state as that of Wisconsin, where at every meeting you get into you always find a dozen or two ready to jump up and talk for hours about a little special purpose cow, and they are generally good talkers too, *and most of them educated politicians.*

Another point I wish to call your attention to, and it deserves the attention of every breeder, is this crankiness about color. It is not the color of an animal that tells you how much good meat you can get under its hide, or how

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large a flow of rich milk you can get at the least possible expense, and it is necessary for the future benefit of Short-horns, for each breeder to remember this in all his conversations, both with intending purchasers and others. In looking over a catalogue recently issued by Sir Hugh Alymer, of about 115 head, only about twenty of them are described as being red, and he has about the leading herd in England to-day. I was somewhat amazed at one of our leading breeders, who has been anxious to obtain a bull to put at the head of his herd (and he has a good one, too), for the last six or eight months. In a conversation with him pedigree came up. He said he cared nothing for pedigree but a red bull he must have. Now this is not as it should be; we, as breeders, must help educate the general farmer, and convince them that a red calf will get lousy just as quick as any other color. The handling of an animal should be the first consideration in purchasing, as by the touch you can tell whether you are getting an animal that will make good use of what you feed it or not, which is very essential, especially in securing a top for your herd. Formation, pedigree, disposition, and color last—this is the order. What difference about the color? It is a well known fact that the majority of first prizes at the leading fairs of the west this fall were won by roan bulls. Then I say, let us look more to the animal than the color of it, and it will be much better for the futnre of the breed that has done more to enrich the English speaking people than all other breeds of cattle combined.

Another point deserving the attention of the breeders is the more frequent use of the knife. Keep none but the best for bulls. If all breeders would do that we would soon receive better prices than we are doing. There is nothing that is as great an educator to the breeders of scrubs as to keep a good grade steer or two where you can show an intending purchaser what can be done by crossing up, and it gives him great encouragement. Moreover you would have an animal if not good enough to take to the Chicago Fat Stock show, good enough at least to take to your county fair and State fair. I know nothing that would do breeders

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as much good as to make a good show of steers at State fairs. Instead of only having one or two there, have twenty or more; a good number of them will draw attention when one or two will hardly be noticed by the masses. We should not be ashamed to take them out. At the Fat Stock show held in Chicago for the last twelve years, Short-horns and their grades have won grand sweepstakes eight times, Herefords and their grades three times and Polled Angus once.

It was remarked by our vice-president last year in his opening address, I believe, that there was a doubt in his mind whether a traveling show herd did not do more harm than good in widening the distance between the breeders and the general farmer. I suppose he meant a herd that was shown at more than one fair. Now I hold that the herds that are put in show shape and shown, do more good than it would to fill the fair ground with cattle that a man would have to ask whether they were pure bred or not. If the Agricultural Society would give more liberal premiums or the State Short-horn Breeders' Association put up so much money, so that a man could get pay for fixing up his herd, he could afford to stop and not go away and make a traveling show herd of it. But some one must show the possibilities of the breed, or I am afraid the distance would get farther than it is now. If we did not fit our cattle it would not be long before some other breeds would be out with show herds, and make the unsuspecting farmer think they had the only good cattle on earth. No, sir! I say make a good show of Short-horns every year at the State fair. Show your cattle in show shape. Show people that you think enough of your cattle to take care of them in that way. Make the show large enough that it will be written about and set everyone talking about what remarkable cattle those Short-horns are. There are surely worthy of it.

Another point that is worthy the attention of breeders, not only of this state, but Short-horn breeders at large, is the manner which some breeders have taken to unload their surplus of pedigreed scrubs. It is a fact, that at two of the sales held at Chicago last fall, a large number of the cattle that did not find their way into the stock yards for beef

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were bought by two prominent breeders under assumed names, I suppose with the idea that they will be able to turn the pedigreed scrubs on to some unsuspecting breeder who will see the fine pedigree, or some farmer who will see the long pedigree without much animal to it. The men from Kentucky who sold those cattle did Short-horn breeders at large more harm than they will ever do the breed good if they should live a century. Good cattle are cheap. What a time for a breeder to send the most worthless of his cattle to the butcher, and replace them with better ones. Enquiries for bulls are more plentiful than they have been for ten years. The range people are making enquiries in considerable numbers. We received enquiries for three car loads in one day from different states. This is encouraging. If they take hold and buy, those breeders who have kept up their herds and not got discouraged, may reap a good reward, and that before long, too. Our export trade has assumed such immense proportions that steer feeders see they must have good steers to command a paying price. And these they cannot get without the use of our best bulls. It costs an exporter no more to ship a steer weighing 1,600 lbs. than it does one weighing 1,200 lbs. (I speak of ocean freight). So you can easily see why they like the large smooth steers if equally ripe. It is just four hundred pounds of beef transported to their market free. One day last week when going home from town, I met two lots of steers driving to this city, I do not know how old they were as they were dehorned; but think they were three past. There were some reds, some brindle, black and white, and some a kind of a blue black. They would weigh about one thousand pounds each, and most likely sold for about 2½ cts. per lb. There was $25 for a 3-year old scrub steer, when, if that man had paid, say $125 for a good Short-horn bull, if he had never used him any more than to sire those twenty steers, it would certainly have been a good paying investment. As he surely would have had steers at the same age weighing fifteen hundred pounds each which would have sold for in the neighborhood of $4 per cwt. or

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$60 each. In fact, he would have been raising beef good enough for export trade instead of raising canners.

But I expect it would have been hard to convince that "moss back" that any bull on earth was worth $100. Things have changed on the ranges of the west. Ranchmen are forced to the conclusion that with the low price of beef they cannot afford the losses they used to sustain without grumbling. With severe winters, the overcrowding of the ranges and the closing in of settlers on them, they are forced to keep no more cattle than they can provide feed for in case of severe storms, so they must have for their motto "less cattle and better ones," and that they cannot get without using pure bred sires, which must help breeders of Short-horns. There is also a large trade to be opened up in South America if our government will take hold, and I am confident it will, and give proper encouragement to establish a line of steamers between this country and the Argentine Republic. The steamers running now are not much force; their charges are enormous, their accommodation of the poorest kind, and their time very slow — about thirty-five days from New York. Taking it altogether it is not a very encouraging job to ship to Buenos Ayres, but those people will pay long prices for cattle if they get good ones, and if shipping should get so it could be done in a reasonable time and at reasonable expense, a great trade can be opened up there, and at paying prices. So in my opinion the breeder who has kept agoing, kept buying better sires, culling out his herd to suit his farm, been farming enough to feed his cattle well, and taking good care of them, has as bright a future for the cattle he so admires as the breeder of any other kind of pure bred stock.

Mr. Clark — I would like to ask Mr. Wakem what he means by handling cattle? I would like a further explanation.

Mr. Wakem — There is something in the handling of animals by which you can tell by the touch whether they are a good feeder or not. Hide not too thin and not too thick.

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You must see that it is just loose on the animal. Good hair is fine and thick; when you take hold of it it is soft feeling.

Question — Hasn't the condition of the animal a good deal to do with it.

Mr. Wakem — Yes.

Question — Is an animal with a thick hide necessarily a hard handler?

Mr. Wakem — Not necessarily. I do not mean to give the impression to the audience that a thick hide will make a hard handler. You do not want too thick a hide or too thin a one, nor do you want too loose a hide. If you want steers that will feed well you don't want one that will feel like a washboard when you take hold of it.

Mr. Harding — With those same conditions wouldn't a different way of feeding make a very different feeling in the animal?

Mr. Wakem — To a certain extent it will make a difference, and a man can take an animal and by a certain way of feeding he can control that perfectly, or to a great extent, but you can take a hard feeling steer that when you put your hand on and when you get hold of it it won't loosen up and you can't do anything with it, you will never get good results.

Question — What value would you attach to this in selecting an animal in proportion to other points?

Mr. Wakem — In selecting an animal for the sire to head your herd there is no point I would give as much attention to as I would to handling. I would be more particular about that than about pedigree. There is nothing I would pay as much attention to in buying a sire for my herd as handling. If you want good feeders you must have good handlers.

Question — No matter how good the pedigree, you would reject him if he wasn't a good handler ?

Mr. Wakem — I say I should consider that of more importance than pedigree.

Mr. Clark — Did you ever find a full breed animal whose his handling was so poor that you would discard him?

Mr. Wakem — Yes, sir, more than once. To-day, in se-

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lecting an animal to head a herd, I wouldn't care whether it was a grade or a full bred, so long as he was a good handler.

A member — You have just answered the question I was just going to ask. That is, if you found a breeding bull good in every other respect but a poor handler, would you buy him ?

Mr. Wakem — No.

Mr. Ogilvie — Is it not true that a good handler is generally a good form ?

Mr. Waken — To a certain extent, whenever you get good handlers, you get an animal with good flesh.

Question — Will you state whether color has anything to do with the handling qualities or milking qualities ?

Mr. Wakem — I don't think color has anything to do with it. A man asked me if a white cow wouldn't get lousey quicker than a red cow. You can see them quicker.

Mr. Briggs — What do you mean by a general purpose cow ?

Mr. Wakem — A cow that you can take and milk her and her milk will pay for her keep and she can raise a calf; a cow that will pay for her keep by milk, can raise calves and be fattened and sold for beef.

A member — That kind of a cow is a special purpose cow.

Mr. Wakem — No, sir, a special purpose cow would be kept for milk and not for beef.

Mr. Briggs — The special purpose cow has to make money. If you have a special purpose cow you can get mutton, beef and pork from her. It is a misnomer. I protest against it. You might as well say a sheep is not a general purpose sheep because it has wool and raised a lamb. The only thing you can make money out of is wool and then it has a lamb. You have no business to call a Shropshire sheep a general purpose sheep because you can.

Mr. Curtis — A special purpose cow is one you can buy for beef purposes. Mr. Arnold has one and I have one.

Mr. Wakem — The special purpose cow is one you keep for milk and butter alone. One that is good for beef and milk equally is a general purpose cow.

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Mr. Adams — I understand a special purpose cow to be a cow that is kept for a special purpose, for one particular purpose, that purpose may be either for the production of beef or the production of milk or the production of butter. My friend has indicated his preference for a special purpose cow as being a cow bred for beef. There is now going on, in the ranks of the Short-horn men, a discussion in relation to the policy of changing their policy from the production of a special purpose beef animal to the production of a general purpose cow for beef and milk also. The Short-horn journals are taking this up and the question I would like to have the Short-horn men discuss is whether if they could produce better animals for milk they are not going to reduce the beef producing qualities of their breed, or whether they are going to win more than they are going to lose.

Mr. I. C. Sloan — As I understand this word general purpose and special purpose, Mr. Adams defined it correctly, but he seems to intimate that the Short-horns have always been used as a special purpose animal. It is a great mistake. They were always, even in their earlier history, a general purpose animal. Their milk has long been considered of the richest. Some animals take on flesh readily and rapidly, while other animals do not. The Short-horn combines both these qualities, that of taking on flesh rapidly and of being good milkers. Of course Short-horns are like every other breed, the — look at the Jerseys for instance, I think that is a special purpose cow. Nobody would ever think of raising a Jersey to make beef of it. You look through the Jersey herds and you will find animals giving twelve quarts a day and more. It is not all Jerseys that are good milkers, however, a large quantity of them are small milkers. Of course there is a difference in Short-horns, but when a man selects the best Short-horns for milk he gets about as good an animal as you will get anywhere. That same animal, while a good milker, will take on flesh readily and fatten readily. There are men, who, rather than sacrifice the milking qualities of their Short-horns, let the calves run with them, thus destroying all the

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milking qualities of the animal, it does not develop their milk capacity. In selling beef at high prices they have neglected that. They have neglected that quality, and the best milking Short-horns were selected for breeding beef. They will stand beside any herd of any kind or class of animals for milk and butter, and, at the same time they will not lose their capacity to take on flesh and take the lead of the beef animals. Take a Polled Angus, I do not think that anybody claims for them that they possess milking qualities. They are fine beef breeders and are valuable only for beef. The Short-horn differs from the Polled Angus in that respect. They are the most valuable cow that the farmers in this country have raised, both for milk and beef, and that makes it a general purpose cow. A general purpose cow is good for two purposes, one is to produce milk and the other is to produce beef. A Short-horn will do both of these things and in my judgment is better than any other breed.

Mr. H. C. Adams — I do not belong to that limited class of men who like to compliment one breed at the expense of another. But I am perfectly free to say that I think the highest excellence and greatest success is met with when you do not undertake to do more than one thing at a time. Neither can you go in two directions at the same time. I do not pretend to see how a man can be a lawyer and a farmer and make a success in both professions, the more he attends to his law practice the less he will do as a farmer, and vice versa. You have all heard of attempting so much that a man is a jack of all trades and master of none. I think what is true of man is true of cattle. When you add milk to Short-horns you take away beef qualities. Breed for special purpose. I have been to the state and county fairs for the last ten years and have not seen a solitary Short-horn cow that could be a good dairy cow.

Mr. Wakem — I heard you state that we had a general purpose cow in our own shows.

Mr. Adams — It must be a mistake or some other Adams.

Mr. Wakem — You did make the statement before the governor.

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Mr. Adams — I do say that it is the finest beef cow that I ever saw in my life. The question that these Short-horn men are discussing among themselves is one that I would like to hear the solution of. I want to know whether they are going to try and raise the animals for milk or confine themselves to beef.

Mr. I. C. Sloan — It is very evident to me that Mr. Adams has not read or studied the history of the Short-horn cattle, as it clearly shows that they were as distinguished for milk in the earlier days of their breeding, as they were for beef. There is some truth in what he says about a man not being able to follow two vocations at one and the same time. For instance a man cannot be a first-rate farmer and a first-rate lawyer he says, isn't it equally true then that he cannot be a first-rate farmer, and combine politics with farming and be a first-rate politician? (Applause.) Nevertheless there are some men who will succeed tolerably well at both occupations, and it is possible, and I believe it to be true, if the breeders of Short-horns had consulted the milking qualities and selected animals chiefly for that, they would have a better field in the milking quality than they now have when breeding for both milk and beef, and that they would get them both. The Hereford and Angus are better than the Jersey for dairy purposes, but the Short-horn for both purposes I think will challenge all competition.

Mr. Adams — I have stated my position on the question. I agree with him in one thing alone and that comes easily, and I think it is the first time we have ever agreed in convention, that is, that a farmer can be a good politician and a farmer at the same time.

A member — I am glad this question has come up. I think I can speak understandingly on this question. I think I have related heretofore my experience with the general purpose cow. Some fifteen years ago I had a first-class Short-horn cow; she was a good milker, nevertheless it was a Short-horn, and I felt satisfied that if it was a good milker, the richness of the milk was not as good as I thought I would like to have, so I thought I would intensify that with a cross of the Jerseys.

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The history I think may be interesting. I had a heifer calf from the cow. To all intents and purposes that heifer was a Short-horn. The propotency of the Short-horn was so much stronger than the Jersey that the cow bred to herself. The propotency of the Short-horn is so much stronger than the others that the production has always been Short-horns. That cow was a remarkable cow. I could have made, and did make, when she was three years old, thirteen pounds of butter per week from her milk. When she was eight years old, twenty pounds a week. I eventually lost the cow with milk fever. She had four heifer calves. I crossed her each way so I think they were one-fourth Jersey and three-fourths Short-horns. In regard to them I had bred a quality that is valuable for good rich milk. If I desired to dry them up to fatten them they take on flesh rapidly. They feed well and take on flesh well, as well as any cow.

Mr. Gordon — A remark was once made by a gentleman in regard to preparing animals for the state fair — it struck me as being a very immoral suggestion, immoral and improper. I do not mean to say anything against the gentleman personally. It seems the suggestion to prepare animals, especially for exhibiting them, was endorsed by the society, and the busy farmers who look to the society as a guide and record of their methods have been given that pernicious advice. If I remember correctly he said something like this: That the Short-horn men ought to feed the cows for the fair at some special expense entirely for fair and show purposes. I believe this is one of the worst things that can happen to the general run of farmers for them to show at the fair animals that have cost more to feed than can be gotten out of them. I do not think it ever should be encouraged in this state or any other state. Do not raise animals that have cost more than they are worth to raise them. I believe we cannot do a worse thing for any breed. I am sure you cannot do a worse thing if your present animals are in any other condition than they ought to be in in the barn at home. If they are dairy cattle, in the condition they do the best at the pail. If for beef, in the

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condition in which they would bring the best price at the block, then the farmer would find in the Wisconsin State Agricultural Society an education, not some foundation or law of waste, but a real education, and he may see what he may do as a matter of business and not as a matter of speculation. It is one of the worst advertisements a Short-horn can have. There may be one or two agricultural gentlemen who have shown their cattle in a condition that has evidently cost a great deal more than the money they can get after the animal is killed. There has not been a worse thing done for any breed. I know for I have heard it said in reference to the English shows, it would result in disaster and ruin to the breeders. Let them send the cattle to the fair in the same condition they would send them to the block, then the farmer can see what the Short-horns animals are worth and breed and feed accordingly.

Mr. Arnold — I think Mr. Gordon is right and still he is wrong. I believe the Short-horn breeders have done good n preparing animals especially for exhibition. We must acknowledge that those gentlemen, although they do not feed all of their herds alike, have shown what can be done with these best breeds better than could be done in any other way. They have done more to show off the breed while they have injured the cattle and their pockets. The Short-horn or any other breed should not be taken to the fair excessively fed, but I do not see any impropriety or harm in taking them to the fat stock show. There is, in my opinion, two classes of breeders. It seems to me, as Mr. Adams suggests, it is a profitable thing for us to discuss whether we will breed for the dairy or for beef. I do not believe in the general purpose cow any more than I believe there is a general purpose horse. I think we have an ideal perfection in some animal. This is right, make up your mind as to what you want, but do not expect too much of one animal. I wish to have a cow serve the special purpose of making money out of her, but not as a dairy animal and a beef animal together. I believe that there is in the breed a sufficient amount of beef properties in the Short-horn cow hat you may use her as a dairy cow a nd breed in that lin e

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and still have a profitable beef cow for the average market. I believe the time is coming when breeders from necessity, in which many of the Short-horn breeders will breed in this line and make dairy breeders of our cows. I believe it will be profitable for other breeders to make their cattle breed for beef. I believe this to be our duty. I do object to stiking in this misnomer, and try to make as much money out of an animal bred for all purposes as you would out of two bred for special purposes. I believe it can be done, I am working in that direction myself. We should have in the state of Wisconsin the same as they have in England, certain sections noted for a certain class of cattle and horses in order to make those breeds profitable. We thus combined are stronger, and while helping ourselves will help our neighbors. I think that today the result of our practice in the past is that the cattle in the state of Wisconsin are not as good as they would have been had there been no cattle shipped into the state outside of Short-horns. The men who have persisted in breeding dairy breeds have made the most money.

Mr. D. W. Dwight—Mr. President, when I was a young man I was a sailor on board a vessel engaged in catching whales. Do you think when I was plowing the water that incapacitated me for plowing the soil? We have to take this world as we find it, not as we wish it was. Are these fine cattle as well cared for as they ought to be? Is there any improved breed of cattle that will stand the treatment of the average farmer as well as a Short-horn does? I think not. When I was a boy (I was born and raised in Oneida county, N. Y.), my father kept a great many cows and made butter and cheese. We had as good cows as there are to-day. Father had a cow that was one-half Short-horn and the other half native. It was an excellent cow. She was hardier and stronger than the common kind. The treatment cows receive at the hands of the common farmer would not answer in the case of the Jerseys and Guernseys. They are bred up and pampered in great style, and they are a fine breed of cattle for butter purposes beyond any doubt. Take the

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average farmer in Wisconsin and give him a first-class grade of cows and they will soon degenerate. In my opinion in this convention we are trying to talk of horses, cows, sheep and pigs a little too much, and not the farmer enough. They need some attention. This county is about as large as the state of Rhode Island. Why don't we go out in the by-ways and highways and call them in —compel them to come in and raise a spirit of inquiry among our farmers. I have not had a talk with any of my brother farmers but what they one and all were of the opinion they wanted to be better than they now are. Is there one among you who wouldn't want to be a better husband, a better father and a better neighbor than you are? Certainly you would, and they all would, only you want to get the spirit of inquiry started, you want to get at the truth, at what is needed to bring about this change for the better. Get them together and have them feel at liberty to talk over their business. Some farmers would do better to breed their cattle for beef rather than the dairy. Take a man at my time of life, they don't want to be tied down to the dairy, and a man who has a dairy will have to be tied down. It is a very confining business. We want a breed that will give milk enough to make butter from, and one that we can raise the steers for the block. We want cows adapted to us as we are situated, and not as we might be. It was so in the county where I was raised, when I was a young man; it is so to-day. We want a cow that will stand the treatment of the average common farmer.

Isaac Clark— Mr. President, I have had some little experience with this Short-horn breed of cattle for the last ten or fifteen years, and I have some full bloods. I have bred with the common stock, native cows such as we have in this county. Now, after all my experimenting, I am satisfied that the Durham is ahead of the others; I am better satisfied with them as cows, as far as I have had them. These cattle originated in Durham, England, that is what gave them their name. They stand ahead of any other stock in England to-day for dairy purposes and I presume

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they are good beef the same as they are in this country. I know what I am talking about, and I tell you that one of my steers when three years of age, when I shipped him to Chicago, weighed 1,025 pounds, it was a three-quarter blood. A year ago last spring, while visiting one of my neighbors, I discovered a cow that suited me. It was three-quarters Jersey and one-quarter Holstein. I made up my mind to have that cow. It had nice teats and a nice bag. I paid him about two prices for the cow because I wanted to compare it with the Durham cow. I took her home or he lead her to me. We set the milk of each separately for one day and churned it each by itself. The three-quarter Durham cow gave me two pounds of butter on grass. At that time we were not feeding her. The other one, the three-quarter Jersey and one-quarter Holstein, gave one pound and three-quarters. Her milk was set separately and skimmed and churned separately. This, I think, was doing well on the care they receive. There has been so much said at our institute work and throughout the state, that there is no cow equal to the Jersey cow raised in the island of Jersey. What did they do at the university? They sent east for a cow, and when they got her, took the best of care of her. She ate $22.50 worth of feed, that is saying nothing about hay. What became of the cow? I went to see the cow and asked Prof. Adams, "where is that cow you sent to Massachusetts for and gave about one hundred dollars for?" "Well," he says, she is around here in a stall." "I want to see her," I said. I knew the kind of feed they fed her and wanted to see what it cost to get a pound of milk and we went around to the stall where she was. He said, we can't get her up because she has the rheumatism in her legs, and can't get up." That is what those cows come to. That is what those high priced cows amount to and we can't afford to buy them. I am satisfied with the cow that gives two pounds of butter on grass. The Durham cattle will look well, sleek and fat, while your native cattle will look lank. I am satisfied that we can make better dairy cows out of the grade Durhams than any other breed.

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Mr. H. C. Adams — I move that we adjourn until 7:30 this evening.

President — The convention will stand adjourned until 7:30 this evening.

WEDNESDAY, Feb. 5th, 7:30 P. M.

President — The exercises of this evening will be under the auspices of the Wisconsin Dairymen's Association, and I will leave you in the hands of their president with confidence. I take pleasure in introducing Mr. H. C. Adams.

President — We have a long program this evening, the first thing on the program being a paper on Principles of Breeding, by T. L. Hacker, of Dane county, a well-known breeder.

PRINCIPLES OF BREEDING.

BY T. L. HACKER.

With the breeder, blood and individual peculiarities are the materials in hand with which to build his ideal animal. His object is to produce at will, not by luck or chance, perfect specimens of the breed. In the bovine race, there are two distinct types, diametrically opposite and antagonistic. In the one, the habit is, to lay on flesh from calf-hood, to assume a blocky form and to fat quickly, the other is spare, angular and wedge-shaped; the one is quiet, slow and stolid, the other is active, quick and intelligent, and the breeder who would be successful, must follow in the line of the one, or the other; the two types being wholly distinct, they cannot be blended and maintain the excellence of either.

As a general proposition, I believe that it is more difficult to breed and rear the race horse and dairy animal than the draft horse and beef animal of to-day, the latter, I believe, are more easily managed by the ordinary breeder. It is easier to produce size and grossness than fineness and quality, to build up muscular and adipose tissues, than to develop and strengthen the nervous system.

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Being more familiar with the methods employed by the breeders of Jersey cattle I confine my remarks to them.

Jersey cattle have been bred on an island a little larger than a township, without an admixture of foreign blood, for at least two centuries, and are of necessity intensely inbred. Notwithstanding the fact their island home has a mild climate, they are sufficiently hardy to thrive and improve, from the Gulf of Mexico on the south to the Canadas on the north; this adaptability, coupled with her longevity and her remarkable performance as a dairy cow, is an argument for close breeding that is hard to controvert.

By the term hardy, I do not mean to be understood that a highly bred animal can endure exposure and ill-treatment. This they should not be subjected to.

I have special reference to constitutional hardiness, good digestion and the power to assimilate a large quantity of food. It is generally understood by observant breeders that the best animals are wonderfully sensitive to any change, and cannot endure harsh treatment. I have a heifer in my barn that is very loving to my son, who has always cared for and milked her, but she will not endure a harsh word or anything like rough treatment, she must be approached carefully and her udder gently manipulated. This heifer is as promising as she is nervous.

I am a firm believer in the dairy temperament as deliniated by our worthy governor, and the problem to be solved by the breeder of dairy animals is how to best develop the nervous temperament.

I am of the opinion that judicious inbreeding produces intensity, or in other words, it develops the nervous system. There are two systems of breeding, each having strong advocates. One is out-crossing or uniting animals of the same breed not akin. The other is inbreeding, or uniting those more or less akin.

Linsley says there is no subject upon which current notions are so far from the facts, as the mating of near kin; there is a prevalent notion that in some mysterious manner the union of blood or near relations is harmful. All sorts of disasters to man and animals have been

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attributed to such union. The history of man and the records relating to the natural history of animals and the science of breeding show that notion to be fallacious in the extreme. According to the book of Genesis, Eve is identical with Adam. For the first twenty-five hundred years of human history, marriage between full brother and sister or half brother and half sister was the recognized order of society. Moses, the greatest man of antiquity, seer, law giver, poet, judge, ruler and leader of a great people, was the son of his aunt, while his father was also his double uncle; his mother was a daughter of Levi and his father a double grandson of this same Levi.

No matter what opinions we may have as to the advantage or disadvantage of close breeding, the fact remains that all the great breeders have practiced it to a greater or less extent for the purpose of fixing certain desirable characteristics that have been developed, and our great performers are either inbred or the offspring inbred progenitors. The female will always have a tendency to produce offspring bearing more or less strong resemblance to the sire of the first one; or in case a female is bred to a male foreign to her breed, or one having a strongly marked character she will thereafter also have a tendency to transmit to her progeny those peculiar characteristics, regardless of what she may subsequently be mated with. So that great care should be taken to mate young heifers especially with a male possessing all the qualities most to be desired in all the future offspring. Right here is a question, whether a young female bred to one not of her own breed can thereafter be considered a thoroughbred; and, *per contra*, is not a native female once bred to a thoroughbred male, thereafter practically a grade?

The importance of securing potency in the sire has long been recognized as a prime necessity. This potency can best be secured by uniting blood lines, the strongest and most vigorous representatives of the blood desired; each union will strengthen and intensify the power of transmitting to the offspring a predominance of these characteristics.

It should, however, be borne in mind that simply follow-

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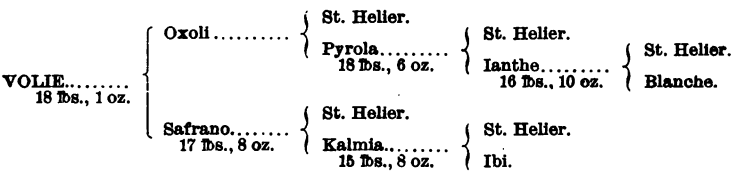
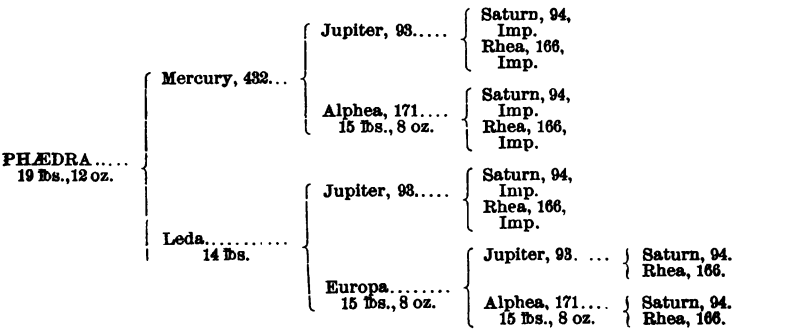
ing the formulas of even the successful breeder, without taking into consideration all the points of the animals, bearing on the ideal desired, would ultimately lead to disaster.

That the practice of inbreeding if *intelligently* carried out, *does not* produce constitutional defects, or weakness in the progeny is shown by such families as the St. Helier, 45, who was for forty years inbred in an unbroken line. His dam made at the rate of twenty-three pounds butter in a week. He was bred to the order of O. S. Hubbell, and imported as a yearling, and was in use eleven years. He has eighteen daughters with tests ranging from fourteen to twenty pounds. Twenty-six tested granddaughters many of them out of his daughters by his sons who were also out of his own daughters, and they are noted for their constitutional vigor.

As an illustration of the formula in which they were bred, I give the pedigree of Volie:



The pedigree of Phædra below is an example of another family famous for large and numerous butter tests and remarkable for their close breeding and strong constitutions:



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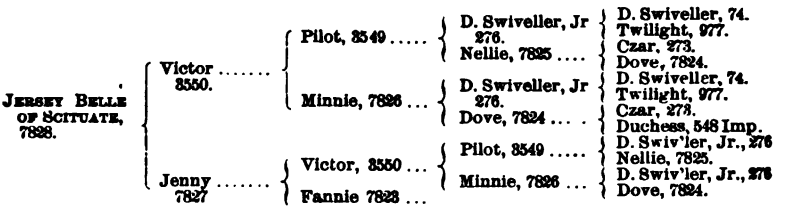
Jersey Belle of Scituate was in almost every point an ideal of perfection in her physical make-up, as well as in her performance as a dairy animal, and was the product of sire to daughter, while the sire was by full brother and sister in blood.



Examples could be multiplied indefinitely, but these are sufficient to show that constitutional deterioration does not necessarily follow the closest in-breeding. On the contrary it fixes certain types and secures a potency in the sire, that is transmitted to the third and fourth generation.

There are other factors to be taken into consideration aside from these, to make a successful breeder.

One, of much importance, is pre-natal influence, which should be of a pleasant and agreeable character.

The oldest account we have on this subject is in Genesis, where Jacob plays some sharp tricks on his father-in-law, Laban, for whom he was farm manager.

It appears that the old gent was rather close and had played a most shabby trick on Jacob sometime before. Jacob proposed to take as his wages, for superintending the cattle of Laban, all the ring-streaked and spotted cattle, leaving all the *solid colors*. Spotted cattle were uncommon and Laban readily consented, now this is what the skilful breeder did, I quote:

"And Jacob took him rods of green poplar and hazel and chestnut tree and piled streaks in them and made the white appear which was in the rods, and he set the rods before the flocks in the gutters in the watering troughs when the flocks came to drink, that they should conceive when they came to drink, and they conceived before the rods, and brought forth cattle ring-streaked, speckled and spotted."

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He only used these rods before the strongest of the flock, leaving the weaker to Laban. He soon had an immense head of spotted cattle.

An instance of recent date was on a farm near Maysville, Kentucky, where a young herd of Jerseys were in pasture near a number of government horses at large, each and every horse was branded on the lower part of the left shoulder, with the letters U. S. In the following spring one of the heifers dropped a fawn colored calf, and on the lower part of the shoulder were the letters U. S., formed of white hair plainly to be seen, and in due time the U. S. heifer had a calf, marked with U. S. in the same place as her dam.

Many instances of like character could be cited but time does not permit. As color and marking is an item of much interest with almost every breeder, great care should be taken not to expose animals to others having undesirable colors or markings.

Another thing, my observation has led me to believe, that dry feed or *times* of draught are not favorable to *prolificacy*, and animals breed more freely and satisfactorily when on succulent pastures or at least have plenty of succulent food. May this not have something to do with the general habit of breeding in the spring time?

Time will not permit me to touch on many other important factors. Aside from general principles laid down, it is necessary to give each animal careful and constant attentention, studying their peculiarities and wants; doing this the breeder who loves his work and is true to his ideal, will be rewarded with a goodly measure of success and the consciousness of having accomplished some good to his fellows.

President — You have ten minutes for discussion, if any gentleman wishes to ask a question, if not we will take up the next paper.

Question — What is the butter record of the last cow you put there. (Indicating diagram.)

T. L. Hacker — Seven hundred and seventy-five pounds, and her weekly record was twenty-two pounds.

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President — Anything else on this subject? If not we will listen to the next paper on the Guernsey cow, by G. E. Gordon.

THE GUERNSEY COW.

BY G. E. GORDON, Koshkonong.

Ladies and Gentlemen: The Guernsey. It falls to my lot to speak of the Guernsey. The Guernseys are a comparatively new and unknown breed of cattle in this country. In all the world they number perhaps 1,500. The little Guernsey island, and island only ten miles long and three and a half miles wide, was the home of this cow. Small though it is they number 115 working cows in Guernsey and 500 working cows in the United States, living working cows to-day, that of cows we calculate by the number of calves that have been registered. They have quite lately been brought into the hands of our practical men. Hitherto they have been largely in the hands of the wealthy men who have kept them for an ornament and for use. At the largest farms about Philadelphia and larger places in the east near Boston they have been kept — kept very much as a farmer's cow in the wealthy classes in Pennsylvania and Massachusetts, and it is only very lately that they have come into the hands of the practical farmers. It is not against them that they come from a small place. People say to me, do you mean to say you can have a breed of cows, valuable cows from a little place ten miles long and three and one-half miles wide. Let us remind them that the Durhams came from a small place, from a small place in a small county in England, as also did the Labrich setters than which there are no better dogs for bird setting. They number fifty-two in this country, fifty-two thorough bred Labrichs in America, but they are enough to grow a new race of bird dogs if the people want them. A small circle of origin is nothing against the breed, perhaps it is in favor of the breed. As the late speaker has shown, great things come from very small centers. The Guernseys have marked

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characteristics. The purity of their origin is recognized throughout the world. Ninety-five years ago no foreign animal had been landed upon the shores of Guernsey. Afterward they have been kept perfectly pure. I hold in my hand a record of 1843, in French.

In this catalogue their origin is traced back to nearly 200 years. It claims the origin was prior to that time. They are a very charming color. I know some people think the Jersey is a beautiful cow. I used to have them and I think they are a beautiful good shaped cow, but I do not think they are a beautiful color. I do not like squirrel grey. They do not strike my eye pleasantly against the green sward and green grass. The Guernsey is orange fawn and she looks well, shows well against the green sward and against the grass, and is the most beautiful creature there is out of doors. She is a lovely creature to the dairyman's eye, and I think she is to the artist's eye. Her skin and her entire make-up are beautiful, her hoofs like tortoise shell, her horns yellow as gold. The entire animal is an advertisement and has written upon it in very large letters of gold, the word butter. That is what it is for. It is not for beef but for butter. It colors everything she touches. If you take your handkerchief and rub over it, it is yellow. The Guernsey cow is yellow winter and summer, no color needed in her butter. She is colored all through. Don't laugh, it is a very serious thing. The Guernsey in America has come to add a large amount to the income of those who use them. She is very hardy. She is the hardiest cow I ever had to do with. I was born and raised among cows until I was twenty-five years of age and have gone back to them in my old age. It is less affected by the cold and changes and seems well adapted to our climate. I do not know how she will suit the southern states, Florida, Mexico, etc., but she does suit the north. I never had such another cow, never since I commenced using them and I commenced pretty young. The calves come right along and grow with never any lack of hardiness. They are just as good to come in in the winter as in the summer time. They have no temper but are gentle as a child. I have twenty-seven little fellows born this

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winter and they are all hardy little beauties. They are docile. You can't wear a decent coat in their company because they will lick it off your back. [Laughter.] It is a fact. They are more docile than any animal I have ever seen before. They are not afraid of anything, women, strangers, umbrellas, dogs or anything. They have been tendered by the women and children of the Island and understand that there is nothing to fear, in fact they are so accustomed to be cared for by them that they seem one of them. Being so docile they have the lymphatic temperment, that is the temperment that beats everything. It adds to the butter color, you do not need to put it into the butter. We also like them because they are a good size. I was raised with beef cattle and I am not fond of very small cattle. My Guernseys I think will range from 900 to 1350. They usually are 1050 or 1100 pounds. We think that is the right size for a Guernsey. They are nearly the size of the Short-horns. They are a large cow which is an advantage, they are just the right size, not too large nor too small. I know there are those who say it is not an advantage to have a large cow. We don't agree with you. Suppose you grade the Guernsey with a thoroughbred herd, what it does not matter. When the cow has reached the age of fifteen or seventeen years, it doesn't matter whether you fat her and send her to the butcher or let her die and bury her like a Christian as she is.

Now I am going to say something that does not seem to chime with what I have said before perhaps. They are easy to fatten. Their milk abounds while you milk them. If you let up on them they fatten readily. We have a great deal of trouble in these modern days of ensilage and corn in the silo. We have trouble to keep our cows from getting fat. They are very prepotent. Some one said he had graded their Short-horns with Jerseys and the Short-horn cows were so emphatic that to a large extent show themselves superior in prepotency to the Jerseys. You can not do that with the Guernsey. I have some in my barns from Jerseys and Guernseys, and they appear to be three-fourths Guernsey. Neighbor Galloway had all sorts of queer kinds of

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mixtures. As soon as he bought a Guernsey, every cow they got was a Guernsey. The black make the handsomest cows. They are precocious, as precocious as any stock. They come into service very early and are very regular in their maternal functions. I have had no experience where there has been such a uniformity and regularity in the performance of the maternal functions, calves come straight, etc. They are a long lived cow and produce up to the end. They are persistent milkers. Those of us who are breeding for calves, whose aim is to produce the best dairy calf that can be dropped and the best dairy cow that can be bred are exceedingly anxious about the Guernseys. They are hard to dry up. The only time they get garget is when we try to dry them up. I have cows in my barn who have never been dry since they were first wet. You can milk them through seventeen years. They are very easy milkers. It is very seldom you find a hard one. They are uniformly large in the milk machinery. They are very large producers. I am not now speaking comparatively. I say emphatically they are very large producers. We have no phenomonal tests in the breed. No phenomonal cows in the breed. We have not a Eurotas or Jenny Field. I do not think we have a cow that has been tested over four or five pounds per day for seven days. We have about as many tested cows as the Jerseys had when they had the same number of cows registered in the herd book. I am glad of it. I have always been opposed to testing individual cows. I say here and believe what I say is absolutely true, that if there is any rock upon which any breed will wreck it is the rock of the individual phenomonal cows. For instance, I think if Emeline had had 200 cows with a record of fourteen pounds instead of one with a thirty-two pound record, it would have been better for the family. It would have been better for the herd if the entire herd would have stood a much handsomer test. I believe if those husband men who have had the individual test, had paid more attention to the whole herd, and the improvement of the breed and brought the test of the whole herd up to a higher average every year, it would have been better for the breed. Any breed will

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wreck itself on phenomonal cows, as regards the whole herd it amounts to nothing. I have nothing against the tests if they could be trusted. I do not think they are reliable. I stand here for correction if I am in the wrong. No cow ever made more butter than she made butter fat. She may make some kind of greese but it is not butter, and contains forty-five per cent. of water. No cow can make but a trifle more butter than she has fat in her milk and that by accident. That is done by having a great deal of oil, a trifle of water and a trifle of casein, captured and brought into service from the cream. So when these men come out with their great big tests and tell me they make thirty-five or thirty-six pounds of butter, I say they have simply something that has answered for a substitute, and there is practically thirty-five or forty-five per cent. of water in it. You may as well be straight in this entire matter of dairy breeding. When a man comes to me and asks if I have a cow that gives twenty-five or thirty pounds of milk I say I have one that is reported to do it but she don't do it. It can be done as a chemical process and as a chemical process alone. In Minnesota they have what they call the New Process Butter. The Guernsey is a good high average breed. They average first rate. There are a mighty few poor ones among them that I have seen. (Read testimonials from higher sources.)

Mr. Fairbanks in Lake Geneva got a Guernsey and bred all the cows in his herd from it. He got a little over twenty-five pounds of milk for 365 days and made a pound of butter a day from each animal in the herd. That is what I call a high average herd. Mr. Fairbank's cows have not been selected at very high prices. He has bred almost all of them at Lake Geneva. Putting the Guernsey at the top where I think she belongs, I mean as an average, we will see how they compare with tests of some other herds. Take the Tidsdale herd, they made another test which resulted as follows (Reads.)

There you see they are at the top again. The Henry Marshall herd. (Reads.)

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Also a small herd of Jersey cows at a gentleman's place not selected as select animals and their record shows as follows: (Reads.)

The Pennsylvania State Fair places the Guernsey high above the others for butter fat. (Reads.)

Prof. Gill says the Guernsey cow will surpass the Jerseys.

Leonards' herd, he feeds expensively and kills his cows, but he gets the butter. (Reads.)

I have blown a pretty strong trumpet for the Guernsey. I think I have magnified them as much as a man does magnify anything he has anything to do with. I believe the Guernsey is the coming cow for the dariyman. If we had more of them they would be cheaper. At present they are not cheap on account of the limited number of them. They are simply wonderful for their butter, beautiful to see and easy to take care of, hardy and a good size. If you once get hold of them you will breed them entirely.

H. C. Adams — I wish to say with reference to this paper, it takes butter about forty minutes to come. It usually appears first in little golden kernels. It takes about ten minutes to work it. The gentleman has given us a churning of the Guernsey cow, and there are some exceedingly yellow kernels. If the convention desire to churn him they can get out their paddles and go at him. Questions and discussion are now in order, and the Jersey men have the floor. Any questions or any remarks?

A member — I think the gentleman is laboring under a mistake about the Jerseys. He evidently has not heard about the Jersey cow that was chased by the dogs, and when opened they found eight pounds of butter. (Laughter.)

President Adams — The next paper on the program is The Little Jersey, by Geo. E. Bryant, Madison.

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THE LITTLE JERSEY.

By GEN. GEORGE E. BRYANT.

In 1870, there were in the United States and the Canadas about 2,000 Jerseys, whose origin could be traced to the little island in the English channel, whose name they bear. In twenty years they have increased on this side of the Atlantic to more than 80,000!

Spite of snickers, snubs and sneers, like the descendants of the great trotting horse, "Clay Pilot," they have come to stay.

About 1864, that horse and these cattle were first domiciled on the soil of Wisconsin. The horse, famous as the progenitor of forty-six little colts, coming one and two years old, that were sold at the halter, March 7, 1889, at the American Institute Fair building, in New York City, for $120,000, lived, until in one month more money was paid for his descendants than was ever paid for the same number of horses in the United States. The cattle have lived long enough to make Wisconsin's product of milk, cream, butter and cheese, famous for the goodness of its qualities, not only in the states round about, but in the countries beyond the mighty ocean — and these cattle have been the prime factor in driving oleomargarine outside the pale of good taste and good civilization — The little Jersey! Ain't she a dandy! What a mother (in a mother's stead) she has been to thousand's of city born children; no wonder they clap their tiny hands and prattle as they grow "What pretty creatures those Jerseys are." Well may they say it, for the milk had both flavor and growth, a taste for the suckling, a comfort to the stomach and a muscle-maker of strength. When the Jerseys began to take the place of scrubs, little children began to be happy. God bless the children, and may they, as their years increase, care well for these mild, soft-eyed brutes, their earliest friends.

Whence comes this breed of cattle? For 200 years they have been purely bred by the descendants of the followers

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of King John, who, though speaking the French language, and with but a little space of water between them and the continent, have never wavered in their fealty to the government of Britain. Loyally and without mongrelization have they for these hundreds of years bred these fawn and white milkers, and loyal have they been to the goverernment that protects them.

The student of genealogy says two hundred years is but as yesterday — whence came the cattle that have become such famous milkers?

My friends, we read that "God made every living thing perfect of its kind." As from Adam has grown in his descendants, giants and dwarfs, black men and white men, saints and sinners. So from the pair of bovines, that God turned out to pasture on the plains of Armenia, have come all cattledom.

Between the Tigris and Euphrates rivers live a nomadic people, descendants of Abraham's son, Ishmael, dwellers in tents, keepers of flocks and herds, living as lived the man with whom God made the covenant, and keeping, breeding and rearing horses of the same blood as the first horse the Creator fashioned; we know that this is the only horse that can be moulded to suit the tastes of man. The English thoroughbred or running horse traces his pedigree to the Arab. The importer of the Percheron and the French coach horse will show you his catalogue and exultingly exclaim "his pedigree runs to Arabs." The Shire, the grandest of *all* draft horses, the Clyde, bred by the canny Scotchmen, a people noted for perseverence, patience, push and profit, has been moulded by the men on the heath, where a Jew cannot flourish, to their present great strength and faultless proportion from the Arab. Knowing, seeing how man can mould the Arab horse to suit his needs and tastes, it requires little imagination to make these Channel Island cows the offspring of the sacred cow of India. The characteristics of no horned animal can be so easily changed as can the Jerseys. With three crosses you can make her a fawn on a gentleman's lawn, with black tongue and black switch, a four to six quart per day milker the year around.

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You can make her *beefy* so her steers will cut up on the butcher's block like Devons, or you can make her, in America, produce more milk, cream and butter than she did on her native isle. Of the fourteen cows portrayed in the first volume of the American Jersey Cattle Club herd book, eleven had a deal of white, so had four of the seven bulls. This easy moulding of Jerseys has been of great detriment to the dairymen of America. Rich men seized on the early importations, and bred for the fancy color, traders got the surplus odds and ends, after the godess Fashion had done her work. A few bred for what came from the udder and made milking families. If you want a running horse, buy one whose sire and dam were close of kin to a four miler. If you are a dairyman and want to clothe and school your children, and pay the minister tax from the product of your cows, buy a bull of a family whose *every cow* will make two pounds of butter per day.

Stick to *family*, be happy and rich, run after fancy and raise cousins to scrubs. Dairymen should watch well the forms of their cows, who are to earn the money to pay the taxes and furnish the cash to send the boys to the State Agricultural college. The broad forehead with its amber horns shows brains, the strong jaw indicating power of mastication, the long hooped barrel broad and deep at the flank, denoting power of assimilation, the udders well set, sure proof of a pail well filled.

When you say a man has nerve you mean he has sand, a will that enables him to stand by every position he has taken that he thinks is right, and when Governor Hoard talks of "nervous theories," I opine he does not mean a cow with the sick headache, or a deranged and feeble stomach, or one who is scared at a woman with a sun bonnet or a checkered apron. He means a cow that has the nerve to turn grass and water into two or three pounds of butter per day. God made the Arab horse, the Jersey cow, and gave them to man whom he had first made in his own image, for his pleasure, his comfort and for the pleasure and comfort of those dependent upon him; May man, aye, and woman

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too, feed well, keep warm and free from an ice cold water diet, these dumb brutes committed to his charge.

President Adams — The next paper on the program is ——

Mr. Goodrich — I hardly want the little Jersey to pass. I will say that this present summer I had a little wee kid of a Jersey that at thirteen months of age had a little heifer calf about the size of a fawn, broad, but straight back, slim neck, a pleasant countenance, a beautiful little thing that weighed about 150 pounds. I sold the calf for $50. A $50 bill is almost large enough for a blanket for the cow. The man who bought the cow has seven persons in his family and that little creature has furnished cream for the coffee and they could drive her around on the table, and made the butter for the table and they have had butter to sell. This is a pretty good story for an old man near the grave to tell. Mr. Robert Williams, who lives in Milton, arose and confirmed the statement in a farmers' convention, and the statement was made the same as I have made it here. Ladies and Gentlemen, that little cow weighs to-day 500 pounds, she furnishes the cream and butter for a family of seven as well as all the milk they want to use. The little mite of a calf is worth to-day $335, and will bring it or never leave my farm. Talk of the general purpose cow. What better can you desire than that? Take Chicago, the biggest cattle market in the world, cattle have been sold there for a penny a pound. I have sold thirty cows this summer about three-quarter Jersey. I had hard work to get $25 each for graded Durhams, of which so much has been said, and graded Holsteins and graded Galloways. I have had hard work to get $25 and I will sell the little Jerseys for $40 each time. Such has been my practical experience on the home farm in raising the little Jersey cow.

President — I now take the pleasure in introducing to the audience Mr. I. J. Clapp, of Kenosha, who will now address you.

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THE GRADE FOR THE GENERAL FARMER.

By I. J. CLAPP, Kenosha.

Ladies and Gentlemen: I have had some experience with the Guernseys, and have been engaged in breeding them. I was among the first, I believe, who introduced them into the commonwealth of Wisconsin in 1881, and I have been a constant breeder and a thorough admirer of them since, and therefore to get up before you and talk on this subject of the grade cow gives me pleasure. In a word, I think that the great bulk of the cattle must be grade cows. I see no other way out of the problem. (Reads paper).

I feel somewhat out of place to stand before you in the interest of the grade Guernsey cow, having been long a breeder of the pure bred Guernsey cattle, an ardent admirer and a persistent advocate, and among the first to introduce them to the commonwealth of Wisconsin. And I would say right here that they have met with a very favorable reception, even better than my most sanguine expectations had pictured; but, as the demand is rapidly increasing, the numbers of this breed are not sufficient to supply this demand, and furthermore, the facts would warrant me in believing that a very large proportion of the farmers in the west must, of necessity, be the breeders and the owners of the grade cow. Moreover, there are not enough pure bred Guernsey cattle in the world, even spreading them thinly, to go all around. Taking the product in our own country, there are only a little over 4,000 cows and 2,000 bulls, in our register, and this includes the entire number from the first importations. Now, deduct from this number the deaths that would naturally occur in the last twenty five or thirty years, and one could safely guess that there are not more than 4,000 animals in America of the thoroughbred. We will now go back to the island of Guernsey, the source and the fountain from which all come. It contains only twenty-four square miles, or 16,000 acres, and the annual export from the island is only about 1,000 to 1,500 head, with only from 4,000 to 4,500 to the utmost on the

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island; and this, with a large draft continually made from England, and this demand is rapidly increasing. J. H. Sanders, of the Breeders' Gazette, says that the Guernseys are growing rapidly in favor in England. Just how many there are there I am not apprised, but certain it is that they have none for export, and besides the rules of our Guernsey Cattle club require that they should come direct from the island of Guernsey before they could be registered in our herd book. Now you will readily discover from this fact, when we take into consideration the extent of our own land, with its numbers of farmers, that it is impossible that all can have thoroughbred Guernsey cattle.

One township in our southern counties will average over 1,400 farmers. One can readily understand that in not over three townships and a fraction could the farmers be supplied with one each, and the balance of our entire domain would be without.

Not only a want of numbers, but there is another potent element that must have a great bearing upon this subject, namely capital, not all of we farmers, with the present low prices of farm products and the present expense of living, I do not mean by this that our daily wants of the things we eat or wear, but the demands of our children in education and society, etc., have the ready cash to invest in a herd of thoroughbred Guernsey cattle, and cash is required, and not a little for one's first start, and again not all farmers, I might say, not all progressive farmers, can breed and handle with success the thoroughbred. Farming, largely, is made up of little things, and, with the thoroughbred industry, it requires a more watchful care and deeper knowledge in the heredity of your cattle. More study in breeding, a better understanding of the wants of the community, and an open hand to purchase any new blood at any time the demands call for it.

Books must be kept, and a daily record of each item must be entered, in fact, I might say one must have ever with him pencil and memorandum book, dates of birth, service, etc., must be scrupulously kept, and if called upon you can swear to your record, even an application to a register

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amounts to an oath. One must always be ready with pen, ink and paper, and always cheerfully reply to all letters besides innumerable postals that one frequently receives, and at times this would prove burdensome to quite a number of our farmers. Your sires must be selected with a great deal of care and judgment, always ready to invest in a better one if possible than you now possess, although you may be obliged to dispose of your present high priced animal even at a nominal price. This again would strongly test the nerve of many a successful farmer. Then again it is an undoubted fact, that all thoroughbred animals are more liable to disease than the crosses of the same breed; this renders your investment more hazardous than rearing the grades. Now again, not by any means the least objection to too many in our country, the truth must ever be spoken, without any equivocation whatever, although you may for the time be feeling that you suffer in your own pocket, but the fact is absolutely imperative, and no evasion whatever must ever be dreamed of. If you make a mistake in this particular like Othello, your occupation is gone, now most of you know whether you are individually given strictly to the truth, prevarication, misrepresentation, or evading the straight cold facts or not, and all I can say to you if any of that class are here, "Keep your hand from the breeding of thoroughbred cattle." Now let us turn our attention for a few moments to the grades, as I said at the beginning this class must cut the greatest figure in the working herds of our country. One can start on a very little capital, and lay a good foundation for a good profitable butter herd of cattle, by purchasing a well bred or a thoroughbred I might say, as I would never advocate anything short, a bull calf for from $50 to $100, the cost of rearing him on your own farm will not be felt much as I believe the best can be reared on skim milk, as they are better not to get fat, they need muscle and bone forming food, and with this food they become more active and more useful. With this small equipment you have a foundation for a herd (always supposing that you have some cows on your farm). Now commence and rear all

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your heifer calves, have them come to profit at from twenty-four to thirty months old. Your first cross taking the experience of others, as a guide, will be all you will need to stimulate you in the way of improvement, that is, if you are a reasonable care taker and watchful of your own interest. You cannot reasonably avoid in a few years of having a fine herd of cows, that will not only please your one eye, but your neighbor will be quite apt to covet your improvement. I should always make this assertion and recommend you to look well to it, if you have not the love for the cow let her alone and look after some other industry better suited to your taste. If you cannot bear the confinement necessary to a successful dairyman, and desire the seat of a nail keg in a corner grocery to milking the cows, better for you that you work off your jaws there, than attempt stripping the cows; but in case you love one of these animals that you have bred so cheaply, your prosperity has not all forsaken you. She will draw a bigger load for you than the largest Clydesdale that you have ever owned. In drawing your mortgage from your farm, relieving you of your store debts, pay your taxes, buy your clothes, educate your family, and load you up with comfort, you may say, if we all went into this branch of industry, the market would become overstocked. I cannot believe with the growing demand for the best of cows that this can ever happen in a land like ours. While the second and third grade may hardly pay for rearing are first rate family or dairy cow, all good dairy men will be looking after. To say nothing of the great numbers that are yearly needed for the family cow.

As my subject is the grade cow, you will allow me to quote from others, as their experience is entirely with the grade cow, while mine is very largely with the pure bred; and first let me introduce to you R. S. Houston, a more systematic and successful and persistent breeder I know not in any country, he says, starting with the common cows, of the country, I turned my attention to the butter capacity of my herd; after investigating quite thoroughly I concluded to try the Jerseys, and from that time have been improving, although for many years I manfully stood

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the jeers and scoffs of my entire neighborhood; it was only by a determined will I persevered. I commenced by raising my heifer calves, and when I felt that I was quite well stocked, occasionally would induce some one to buy a heifer calf, but the most that I could obtain for my early production was $5. When the stock grew to maturity, I found much better sales and for far better prices. For my own use, I always bought the very best sires I could purchase, and they must certainly be not only thoroughbred, but registered. When Guernseys were introduced into the west in 1881, I purchased a Guernsey sire. Since that time I have used both Guernsey and Jersey sires. At first the Guernsey was used rather sparingly, always increasing his service until the present time, and now I shall dispose of my Jerseys at canning price, unless some one applies early that wants a well bred fellow at a give-away figure. I am a thorough convert to the Guernsey cows, and why? They are more docile, larger in frame, more muscle and bone, have more the looks of a farmer's cow, have better sized teats, color their product better; their calves are larger, and taking all in all, they are more desirable as a dairy or family cow — the cow which always finds a ready sale at remunerative prices. The prices obtained have too often induced me to sell much of my best stock. In fact, so that I have hardly been able to keep my working herd good, and have one to replace an old cow, if by accident one should drop out. My later sales are are bringing me even better prices, than formerly notwithstanding butter and all other farm products are distressingly low. I find no necessity in advertising or looking up customers. I have a ready home market for all I have, and can raise from $25 to $35 per head for calves, to those of only one year old. My only regret is that my calves are not all heifers. I am not alone in my opinion, for my neighbors are becoming convinced that I have pursued the right course; until now, within a radius of a few miles around me, I can count ten thoroughbred Guernsey bulls in use. The income from the sales of my cows and calves has been steady and remunerative.

I rear them on skim milk, and one can readily figure,

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that the cost is not very burdensome. Since I have commenced with the Guernsey cross my market has been so good that I have been unable to keep a first-class cow of a Guernsey color, and here let me say that color is very potent in the Guernseys, and also potent in her selling qualities. I have been able to sell grade cows at even better prices than many a thoroughbred has brought within the last few years. I have followed this course for a number of years with success, until I am of the firm opinion that the market for a first-class rich milker will never be overstocked, at least with me it is four fold better than when I commenced.

From Arnold Graves, Lancaster, Wis., comes this: "My heifers are taking the first rank here at the creamery, 10 degrees higher than any that come to the creamery. I like the Guernseys; they are just splendid. I am milking three of the two-year old ones, giving as high as 40 pounds of milk per day, and it is rich. I use no butter coloring."

From Hon. H. W. Blodgett, judge U. S. district court, Northern, Ill.: "I have as yet only two year-old heifers, but the experiment seems a success. The produce seem to be very vigorous animals and their performance in the dairy so far seems very satisfactory; their milk is excellent in quality and liberal in quantity. This is the Guernsey cross with the Ayrshire.

Mr. O. T. Denison, Mason City, Iowa, writes: "I bought of Chapin some young Jersey and Guernsey cows which he bought of you, and they have completely converted me from Short-horns to the Guernseys; they are only grades, but they are doing wonderfully as milkers."

Mr. L. F. Allen, Buffalo, N. Y., writes thus of the cross of the Guernsey on the high bred Durhams: "As a rule my Guernseys are uniformly good milkers. Their udders are square, well set 'fore and aft' with well sized teats, easy to grasp by the hand, and giving their milk freely, as to the quantity in weight of either milk or butter the yield, I have never tested them by forcing into them more expensive food for a week or two weeks' trial, than the butter they would be worth, considering all such processes to be haz-

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ardous to their health and lives. They yield their milk continuously from dropping their calf, until nearly the time of the coming of the next calf, and in some instances would continue without cessation having to force a drying off for four to six weeks, which always should be done for a rest to both the cow and the good condition of her off-spring. Their percentage of cream to milk is quite equal to that of the Jersey, as I have compared them as in the quality of their butter. They are quite to my satisfaction as butter makers."

"W. L. B." writes in *Hoard's Dairyman:* "The family cow must be a good milker, one that will give from 10 to 12 quarts a day, and that will keep it up for 10 months of the year. A cow that will go dry for four months or that will give one or two quarts a day for some months, is of no use for a family cow. Quality of milk is of more importance than quantity in a family cow. Now she must be a gentle quiet one, that the children can pet her, and her milk of high color, and after having tried the different breeds for more than 25 years, we have settled on the Guernsey as the best family cow."

C. L. Weld, in *New York Tribune:* "The family cow is one to be petted; she must be gentle, good looking and have such qualities, that the wife and every member of the family shall be proud of her. Her flow of milk must be generous, the cream thick, abundant, high colored, and quick in rising. The skim milk may not be too blue; for notwithstanding all our wise board of health say to the contrary, skim milk, is, and will be the milk of the family. Such a cow must be a good feeder, always hungry, not inclined to take on flesh while in milk, and as a result, will convert all her feed into milk and cream. The butter should be golden, should hold its color well into or through the whole winter, and this product should be so abundant that there shall be no occasion to buy butter so long as the cow is in milk. Besides she should be an easy milker. The teats should be large enough to be grasped by the whole hand, for otherwise more patience and faithfulness will be required in the milker than common family servants either men or women

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usually possess. There, I have described a good Guernsey cow, or a half bred one, and I very much doubt if such cows can be found in any other breed."

HENRY BLACKMAN,
Kenosha, Wis.:

I have a few of my one-half blood Guernseys come to profit; and I find them better than my old cows. They give more milk and make more butter. I shall fill up as fast as I can, and dispose of my old cows.

HORACE BLACKMAN, Kenosha, Wis.

My heifers, one-half blood Guernseys, are having their first calves, and one is giving me 40 pounds of milk per day. I shall not sell any; I want all for my own use, one hundred. They beat my old cows, and I want all my entire stock to be of this kind.

President — We have no time for discussion. We will next listen to a paper on Dairy Management by C. P. Goodrich, of Ft. Atkinson.

DAIRY MANAGEMENT.

BY C. P. GOODRICH, Ft. Atkinson.

The subject of "Dairy Management" is so broad and comprehends so much that I hardly know where to begin and what to say in the few minutes, time which can be allowed me. I will assume, to begin with, that every person of ordinary intelligence must know that whatever he proposes to do, either with machinery or animals, he must have the machine or animal that is especially adapted to the purpose for which he wishes to use it. No man would think of entering a Clydesdale horse, or even a grade of that breed, for a running race, or take a 900 pound trotter to haul logs in the pinery; nor would the sportsman hunt prairie chickens with a bulldog, and that the intelligent dairymen, who wishes a cow as a machine to work up the forage of the farm into dairy products in the most profitable manner, would have none but the one that had been

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bred and reared for that special purpose and for no other purpose.

I also assume that it is pretty generally understood that to make dairying profitable, the machine must be run to its full capacity; that, as it takes a great proportion of the fuel used in a steam engine to barely keep the water hot, and no power is produced except by that used in excess of that amount, so, also, nothing is produced by a cow except by the food consumed in excess of the amount necessary to support life.

PRODUCTION MUST BE CHEAPENED.

The stubborn facts that confronts us now is that dairy products, like nearly all other products are each year growing cheaper, and if we make the business profitable we must cheapen the production. We must make our cows produce more by breeding and raising better cows, taking better care of them, adding more to their comfort, feeding in a more intelligent manner, and furnishing the proper food, which should as far as possible, be produced on the farm, at a smaller outlay of money and labor. This question of labor is a very important one, for every day's work laid out represents a certain sum of money, and I believe that more can be done to cheapen production, in the direction of lessening the labor of providing food than in any other way.

I have been looking over my books a little to see how the price of butter has been gradually falling year by year. In 1882 the net price I received during the year, after deducting freight and commission, averaged 31½ cents, and in 1889 23⅓ cents, a difference of more than eight cents a pound. And this does not represent all the difference in the market price between those two years, for in 1882 I did more summer dairying than in 1889. Yet I made more profit per cow in the last year than I did in 1882, for the reason that I produced more pounds per cow with much less labor.

OLD METHODS REVIEWED.

I will tell you how I did in 1882, because it is the way the majority are doing now, among some of our most intel-

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ligent and enterprising farmers, notwithstanding all that has been said and written on the subject. I recognized then as now, that corn would produce more cow food per acre than any other forage plant, and therefore I fed it to a great extent, mixing corn meal with bran for a grain ration and feeding out the stalks for rough forage. But see the amount of work I did on an acre, which would yield say fifty bushels shelled corn. It took one day to cut and and shock it, two days to husk and throw the corn on the ground and bind and shock the stalks (I very seldom hired men who would do it as quick as that). Then there were two loads of corn to pick up and haul to the crib and three loads of stalks to haul and stack, which would certainly represent three-fourths of a day, as it would take two men to haul and stack the stalks. Then it used to take two of us a day to shell 100 bushels, so I ought to count one day for shelling, but to be sure and not to get it too much, I will call it three-fourths of a day. Then two trips to the mill or wait while it was being ground used up another half a day more, paying for grinding at four cents a bushel was $2. Now if we call a day's work a dollar, we have seven dollars as the cost of getting an acre of good corn in shape to feed cows after it has been grown, and I am certain that doing it that old way, which many are practicing now, it cannot be done for less. And after you have done all that, what have you got? The grain part is all right, but how about the fodder? According to the best information I can get the stalk of corn has nearly as much feeding value as the ear, if it can all be saved and preserved in a digestible state, but when it is treated in the way I have described the cows never get more than half the value. First the shocks are weather-beaten and wasted on the outside. Then they are thrown down and husked and if the weather is dry much of the leaves and finer parts are crumbled up and wasted. They are bound and shocked again and another portion is exposed to the weather and storms. Then they are stacked and they are still more damaged by rain and snow and at last are dug out of the snow in the winter and thrown into the yard where the cows chase

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each other around over them till, if it is cold weather, much of them is broken up and wasted. If the weather is mild, it is just as bad, for they get dirtied up so the cows will not eat near all. In any event the large stocks are hard and indigestible and cows will not eat them. I do not believe that in this way we ever get more than half the value of the corn fodder, so that we lose 25 per cent. of the value of the whole crop — corn and fodder — besides, much of the time the cows are suffering from cold and inclement weather out in the yard, when they ought to be in the stables. It may be said that the stalks can be fed in the stable, but we know that this is seldom done. I used to do it sometimes, when the weather was stormy, but it was so much work to lug the stalks in and put them in the mangers, and still more work to carry out the stalks that were left uneaten that I never did it if my conscience would allow me to do otherwise.

STEPS IN IMPROVEMENTS.

I soon made a little improvement on this way of doing business by putting up a geered windmill, which, besides running other machinery, ran a corn-sheller and feed-grinder, thus saving the expense of grinding and going to to mill. In a few years I made another long step in the way of saving labor and thus reducing the cost of production. I dispensed with entirely husking and grinding all the corn I fed to my cows. The corn, when sufficiently cured in the field, was bound in bundles, then stacked near the barn and in the winter when it was needed to be fed, was run through a feed cutter and fed in the mangers. In this way the grain was so thoroughly mixed with the fodder that it was nearly all masticated and digested and there was but little wasted except the butts of the stalks. And, besides, the cows were in the stable where they were comfortable while eating it. This saving of husking and grinding is at least $4 an acre over the old way, but the cutting is much more expensive than if the corn is hauled direct from the field and run through the cutter while green and all done at one job. With the dried corn but little can be cut at a time, for if a

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large quantity is cut and heaped up there is generally moisture enough in it so that in a few days it will heat and mould.

THE SILO CHEAPENS PRODUCTION.

Last year I built a silo, and that was another long step in the direction of cheapening production. I will tell you what it cost me to get an acre of good, well eared corn in the silo ready to feed. I put in the silo fifteen acres in ten days, the average number of hands four and one-half, making forty-five days' work, or three days' work to the acre, in place of seven days' work by the old and too common way. And instead of a loss of 25 per cent. of the feeding value you have very little loss. You can get it all into the silo; that is sure. Mine spoiled a little around the edges, on top and at the corners. As near as I can figure it, about 2 per cent. was damaged, and that, when thrown into the yard, was all eaten by the young cattle and colts. What loss is caused by the heating process I have no means of knowing, though I cannot believe it is much, but probably some; and prossibly this loss is compensated for by the food being made more digestible.

I have neglected, in camparing the two methods of disposing of the corn crop, to take any account of the work done by horses. The horses we have to keep to do the farm work during the summer, and unless their work is particularly hard it is no damage to them to be employed. There is some more horse work done by putting the corn in the silo than by the old method. The cutter has to be run instead of going to mill, and the green corn is heavier to haul than the dry. I used two teams. I used a two horse tread power to run the cutter, which could not be run more than half the time, because we could not get the corn there fast enough, and the teams when hauling, were standing for the loads to be put on more than half the time, so that the work for the horses was light.

Ensilage is very palatable and cows eat it greedily. It seems to give them a better appetite for other kinds of forage, therefore causing them to consume more food, which

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is of importance as it increases the product. When I commenced feeding ensilage my cows very soon increased their flow of milk 10 per cent. and the amount of butter 5 per cent. The flavor of the butter was better and the commission man was able to advance the price 2 cents a pound above the best market price. I commenced by feeding each cow about twenty pounds a day, which was gradually increased to forty pounds of well-eared corn silage. This amount would contain corn equal to about four or five pounds of dried grain. This would be about the right quantity to give a cow. In addition give her eight pounds of bran and what clover hay she will eat, probably about 10 pounds, then if you cannot make a good profit making butter at 15 cents a pound you have got a poor cow or there has been gross mismanagement somewhere.

So, you see, we dairymen can stand a good deal more reduction in price of dairy products and still live. But there is no necessity of taking up with an average of 15 cents a pound yet, or for some time to come. The lowest price for which any of my butter was sold last summer in Chicago was, for two or three months, 20 cents, which left me, after deducting freight and commission, 18 cents. All that is necessary to do to get the highest market price is to make such butter as those want who are able and willing to pay for it.

CATER TO PUBLIC TASTE.

Don't set up any notion of your own as to what is good or what you like, but study the wants and taste of the consumer. You can't make people buy what they do not like, no matter how earnestly you may insist that it is as good as can be made. If any one of your acquaintances is getting this winter 30 cents a pound and quick sale and you are getting only 20 or 25 cents and often slow sale, don't get mad and abuse the commission man and declare that yours is just as good and you are being cheated, but remember that quality governs the price when it gets on the market. Yours may suit your taste, but that is of no consequence if it don't suit the market. You have eaten that

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kind so long you like it; others not having had your experience do not. The better way would be to go to the one who gets 30 cents and ask to be instructed as to his mode of doing, all the way from the feeding and care of the cows, handling the milk and making the butter. If you are good at learning and try hard enough, my word for it you will get just as good prices as soon as customers find out what the quality is, and when your butter has found customers deal honestly with them and do not try to deceive them. If, by any mischance, you should make any butter that is not up to the standard of quality, never ship it with your brand on it. If you do somebody will be cheated, he will lose faith in your honesty and you will have to find other buyers. If you have such faulty butter ship it without your brand, and let it be sold on its merits for what it will bring.

If you have not got, or cannot get the conveniences for making the butter yourself with the smallest outlay of labor possible, or cannot get the knack of making butter which will bring the highest market price, then you had better take your milk to a creamery and have it made up by a man who knows how, and pay him for the making, and you will be a long way ahead of what you would be by making your milk into cheap butter yourself.

EXERCISE NOT NEEDED.

As to the question of exercise for milk cows, I am satisfied that they require but very little. With young and growing stock that need to have their muscles developed, of course, the case is different. One year ago this winter I had a cow that had contracted the habit of milking herself. Keeping her in the stanchions would prevent her from doing so. She was a good cow and I wished to keep her. Accordingly I kept her in the stanchions about seven months, her only exercise being when she was let out to water, walking about sixty feet to the tank and immediately walking back again to her place. She never did so well giving milk before, and her next calf was a strong,

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healthy one. My cows now, on pleasant, sunshiny days, are in the yard two or three hours daily.

I do not think it economy to compel cows to drink ice-water, still if they could have fresh water from a spring or well at a temperature of not less than 48 or 50 degrees, I would not be to the trouble of warming it. My cows have to drink from a tank in which in cold weather, ice would form if it were not warmed, therefore I use a tank heater and warm the water up to between 50 and 60 degrees, which seems to suit the cows better than to have it warmer, and certainly much better than to have it ice cold.

Q. What is the average production of your cows?

C. P. Goodrich — Three hundred pounds this year or rather last year.

Mr. Clark — What variety of corn do you feed your stock?

C. P. Goodrich — You mean what variety of corn? Do I understand you?

Mr. Clark — Yes.

C. P. Goodrich — I planted some of the B. & W. corn, some of Stowell's Wisconsin sweet corn and some of the common yellow dent corn. The yellow yielded the heaviest and was the best ensilage this year.

President — It is late and we have no time for discussion. The next on the programe is Prof. Henry of the Wisconsin Exp. Station.

Prof. Henry — At this late hour it is heartless for any speaker of only ordinary ability to attempt to keep you. I do not think I could keep you here any length of time and not wishing to speak to empty seats I will only keep you eight minutes.

President — The chairman has omitted two papers from the programme. These papers will be delivered sometime to-morrow. Mr. Haaf will address the convention to-morrow afternoon directly after dinner.

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THE CHEMIST AND THE DAIRYMAN.

By Prof. W. A. HENRY, Director Wisconsin Experiment Station.

Dairying is an art, and for the most part must remain such. It was begun before the sciences were dreamed of, and its progress down to the present has, for the most part, been without the aid of science. People have learned to make butter and cheese much as they have learned to make bread by practical efforts, and not by the aid of scientific teachers. But because bread making and butter making have both progressed without the aid of science, we are by no means sure that they are beyond the reach of scientific methods, and that they cannot be improved through more knowledge systematically applied. Indeed, bread making already shows advance through the aid of science. Little do we think as we buy the little mass of ferment called compressed yeast that skilled men have watched its growth and development, yet such is the case. In our large yeast factories chemists and microscopists, trained in the best scientific schools of the world, are employed to watch the growth of the yeast. In dairying, a notable advance in the cheese industry came through the preparation of pure rennet in the shape of rennet extract. In butter making the centrifuge is a high example of scientific attainment, and the butter extractor promises to be the crowning effort in this direction. Bacteriologists are studying the ferments of milk, and may yet give us much that is of value in butter and cheese making. It is my purpose, however, not to touch upon these points, but to refer briefly to another field where the effort of the chemist may be of the greatest importance to the dairy interests. I refer to the introduction of tests by which the fat composition of the milk may be accurately, rapidly and economically determined. The crying demand in the dairy to-day is in this very line. We have breeds of cattle that give milk rich in fat but of moderate quantity; others yield milk with a small percentage of fat, but a large

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flow. What is true of breeds holds with individuals in the herd, some cows giving milk 50 per cent. and even 100 per cent. richer in fat than others which stand beside them, receiving the same care and consuming the same food.

The introduction of co-operative dairying was a great stride in advance, but it is seriously embarrassed at this time because of the great difference in the quality of milk delivered into the common pool by the different patrons; could our farmers only see this difference as it really exists the enormity of the difference would break up co-operative work at once or bring about a revolution in the system of dividing money at the factories. But fortunately or unfortunately, there is a great lack of knowledge upon this point, and men go ignorantly forward, some gaining, others losing, with but comparatively few receiving justice. There are factories in Wisconsin to-day where some farmers are delivering milk at the creamery and cheese factory which will yield four and one-half pounds of butter fat to the hundred of milk, while other patrons of the same factory are delivering milk with but three per cent. of fat in it, and yet the one delivering the richer milk, either through ignorance or carlessness of the true condition of affairs, scarce utters a word of complaint at the unjust division of the returns. Supposing this same farmer were asked by his neighbors to pool with them and all ship hogs to Chicago together; and further, suppose that this farmer's hogs weigh 450 pounds apiece, while his neighbor's weigh but 300, and yet they all agree to divide the returns according to the number of animals shipped.

What is true in pooling of milk at the factory finds a duplicate in the dairy barn. Often two cows stand side by side one giving milk fifty per cent. richer than the other and yet the farmer applies no test for knowing the difference, and does not know it except in a general way. This great lack of knowledge of the composition of milk of the herd and at the factory has been due to the fact that there has been no simple means of determining the fat contents of milk. The methods devised by chemists have been for laboratory purposes and laboratory uses, and through delicate apparatus

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employed and the training necessary to manipulate the samples, it has been impossible to adopt the practice at creameries or on the farm. The most accurate method of analyzing milk is no doubt where the samples are weighed out on delicate balances, after which the milk is dried and from the dried material the fat is extracted with ether, which dissolves the fat just as hot water dissolves sugar, but which gives up the fat again upon evaporating off the ether just as evaporating water with sugar in solution yields up the sugar again. The "gravimetric ether" method will not do at the factory. "Volumetric methods," i. e., where a volume of milk is measured and in some way the fat extracted from it and also measured by volume, have been known for some time, but like the gravimetric process they were not simplified. The oil test churn was the first step in this direction, but unfortunately this method does not succeed except with cream samples. This left cheese factories and whole-milk butter factories without help. Short's method, devised by our Mr. F. G. Short, now with Food and Dairy Commissioner Thom, was a stride in the right direction, and has proved exceedingly useful. It is being taught to our short course agricultural students, and many of them are adepts in its use. It has also been adopted in a number of factories. Its greatest value, however, perhaps is in the fact that it has greatly stimulated chemists to search for simpler methods of fat analysis, and a large number are now at work in this field, and it is but a reasonable expectation backed up by strong hope that some will succeed. The chemist who will give us a cheap, effective test for factory purposes, by which the fat of milk can be measured and money paid upon its fat content, will have done a work that will make him be ever held as a benefactor of his race. *Square across the road of dairy progress to-day lies this great obstruction of inability to pay for milk upon its fat content.* It must be lifted to one side if the cause is to advance, and advance it will. I urge upon our people to get ready for the day that is surely coming, when milk will be valued by its fat content.

When an instrument for this purpose is perfected, one of

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its best uses will be for determining the value of individual cows, and to our farmers a word upon this point. When a man buys a trotting horse the owner will guarantee that the horse can trot a mile in a certain length of time. This guaranty presupposes favorable conditions of track, etc. When dairy cows of the noted breeds are being purchased, why not in the same way, insist on a guaranty of the fat content of the milk. Why should not a man guarantee that a Jersey cow will give 25 pounds of milk a day under favorable conditions, which shall yield not less than five per cent. of fat. This would be 1¼ pounds of butter fat, which will make, under favorable conditions, rather more than that amount of butter of marketable condition. Instead of allowing breeders to talk pedigree, color, and markings, insist upon true merit by weighing the milk and getting a fat analysis of it. The person who will insist upon this test can be his own judge of the worth of the cow, for he can study the pedigree and make himself sure on that point, and the weight of milk and the fat test will give the ability of the cow direct. When this occurs there will be a weeding out among the full blood animals of the various breeds; such a weeding out, too, as will surprise the admirers of the breeds, for with present breeding, where all of the animals, or all of the females, at least, of each breed are preserved and recorded, there are large numbers whose only merit lies in the fact that their ancestors were of some worth. When a practical fat test has been invented and brought to the attention of our farmers, they will soon appreciate its worth, and then for the first time the true value of the chemist's calling will be made apparent to the dairyman.

Mr. Wilkinson was sick and unable to be present and Mr Wylie was asked to preside over the afternoon session entire.

Chairman Wylie — The first subject on the program is "Mutton and Wool in Wisconsin" — George McKerrow, Sussex. I take pleasure in introducing Mr. McKerrow.

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MUTTON AND WOOL IN WISCONSIN.

By George McKerrow, Sussex, Wis.

Mr. President, Ladies and Gentlemen: I believe that there is no better state in the Union than Wisconsin. I also believe that the agricultural prosperity of this state depends upon the manner of handling our farms. The farmer should consider his farm both as his home and his bank. He should strive to increase its productiveness from year to year by such a course of handling as will give him a comfortable living for himself and his family and also add to his capital by leaving his acres more fertile and productive. The great question is. how we can do this? Not by spending thousands or hundreds of thousands yearly for commercial fertilizers as our eastern brothers do, for this expenditure must interfere with the comfortable living already mentioned, but instead we must look to the different branches of live-stock industry to keep up the fertility of our soils and furnish us with the means to support our families. It has been proven that as good products in this line can be produced here as anywhere on the continent. Our dairy products are at the front; our horses and cattle are second to none, as is shown when they enter the show rings of the country and carry off the laurels. While there is room for all branches of live stock, yet at this time I will attempt to show why we have faith in the innocent sheep.

If we look around among our friends who have been handlers of sheep, we will find that as a class they will compare favorably financially with any other class of farmers, while their farms are as clean and well fertilized as any in their respective sections.

As to the future of this industry we can only say the outlook appears bright. In prices and profits, mutton and wool lead all of our other products and with a demand for choice mutton that is increasing more rapidly than our population. Good lamb muttons sold last week in Chicago at $5.75 to $6.65

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per hundred pounds; and as two-thirds of the wool used is being imported into our country, we think the future of this industry is largely in our own keeping. If we produce the proper kind of mutton and put it upon the markets before it has eaten up the profits in food or support, we can do it at a much less price than it now commands, and still have a living profit. We often are met by the statement that the competition of the far west will drive the sheep men of this section out of the business. I have no fear of this. In the first place the methods of feeding and the kinds of food produced in those sections are not calculated to produce a quality of mutton that will bring the best prices, and the distance from the markets will go against both the quality of the meat and add materially to its cost.

To make sure of a product that will both pay a profit and add to consumption by giving consumers a good article, we must breed and feed for it. We must breed animals that will mature early and at the same time give a good quality, of sweet, juicy, marbled mutton, animals whose ancestry have been bred for generations with the object of the largest amount of choice meat and wool for food consumed.

SOME TESTS OF BREEDS.

To determine the effects of different crosses on common sheep with pure-bred sires, the following experiment was carried on for five years (from 1875 to 1880) at the Ontario Agricultural Experiment Station, at Guelph, Ontario. Each year five wether lambs of each kind were taken and fed until a little over a year old, then sheared, and both wool and sheep sold, with the following average results: The half-blood Southdown cost to produce it $6, sheared 6 pounds of wool, which sold at 40 cents per pound. The sheep weighed 157 pounds and sold at 6½ cents per pound, a total of $12.60, and a net profit of $6.60 per head.

The half-blood Shropshire cost $7 to produce, sheared 9 pounds of wool, which sold at 38 cents per pound. The sheep weighed 165 pounds and sold at 6 cents per pound, a total of $13.32, and a net profit of $6.32 per head.

The half-blood Oxford cost $7.40 to produce, sheared 8

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"Shropshires," from Woodside Stock Farm." Property of A. O. Fox, Oregon, Wis.

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pounds of wool, which sold at 35 cents per pound. The sheep weighed 177 pounds and sold at 6 cents per pound, a total of $13.42, and a net profit of $6.02 per head.

The half-blood Merino cost $5.50 to produce, sheared 7 pounds of wool, which sold at 42 cents per pound. The sheep weighed 145 pounds and sold at 5 cents per pound, bringing a total $10.19, and a profit of $4.69 per head.

The half-blood Leicestershire cost $8.10 to produce, sheared 8 pounds, which sold at 28 cents per pound. The sheep weighed 198 pounds and sold at 5 cents per pound, giving a total of $12.14, and a profit of $4.04.

The common scrub cost $5 to produce, sheared 5 pounds of wool which sold at 25 cents per pound; the sheep weighed 150 pounds and sold at 5 cents per pound, bringing a total of $8.75, giving a net profit of $3.75 per head.

The half-blood Cotswold cost $9.30 to produce, sheared 9 pounds of wool which sold at 28 cents per pound; the sheep weighed 199 pounds and sold at 5 cents per pound, bringing a total of $12.47, giving a net profit of $3.17 per head.

The results of this experiment show to us several important facts, a few of which we will attempt to point out: It is not the sheep that shears the heaviest fleece that gives the most profit, nor the sheep that reaches the greatest weight that brings the best returns, but quality seems to cut the largest figure in determining the profits; and as these sheep were all fed by the same parties and on the same kinds of food, and sold in the same markets, the difference in profits must come entirely from the difference in breeds. Again we will notice that these sheep must have been well fed as the cost for feed and care ranges from about 1½ to 2½ cents per day for each sheep, which may strike some of our farmers as being rather extravagant feeding, but as it gave over $6 per head clear profit on three different lots of these half-bloods, we must conclude that this method of good feeding must be better than that which barely brings back the cost of food consumed, as is too often the case.

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EXPERIMENTS AT CORNELL.

A very interesting experiment was carried on in sheep feeding at Cornell University Experiment Station from November 25, 1888, to April 25, 1889, whereby it was shown that a nitrogenous ration produced mutton at a cost of $1.56 per 100 pounds less than a carbonaceous ration did under the same conditions and care, and also another which showed that roots were of much value in mutton and wool producing. Twenty cents' worth of roots fed to two lambs caused them to eat 11 cents worth of hay and 4 cents worth of corn more than did two other lambs fed on the same kinds of hay and grain. The result was that this extra 35 cents' worth of roots, hay and grain gave an increased product in mutton and wool worth $1.17, or a net profit of 82 cents on an investment of 35 cents. These experiments you may say are far fetched and will not apply to Wisconsin, but I have every reason to believe they will.

WISCONSIN VS. CANADA.

When in Canada last July I bought Oxford Down lambs born in March that weighed from 110 to 120 pounds, and were the heaviest lambs of their age I saw there, but I found on my return that I had lambs of the same breed about the same age that were equally as heavy, and that the heaviest breeding ewe on our farm was a home bred one. In weighing a few March lambs in August we found a bunch of Oxford down lambs to average 118 pounds each, a bunch of Shropshire lambs 100¾ pounds, and a bunch of Southdown lambs 101⅓ pounds each.

These lambs were Wisconsin bred and many of them from ewes bred here, and also sired by rams that were home bred and were as good on the average as those from our imported rams and ewes.

The objection so often made that it is impossible to keep up the size and quality of the English mutton sheep in this country without continual importations I believe will disappear when we learn to feed as well as our English cousins. Let our motto be early maturity, and when the lamb is born push him along with a variety of food until fit for

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market; if he is intended for breeding purposes push him until full grown.

Wisconsin sent to the Chicago market during 1889 several lots of sheep and lambs that were good enough to bring the highest price in that market for the days on which they were sold; and with proper breeding and feeding her flock masters can continue to produce and send forward stock that is second to none.

Chairman — As we have another paper on this same general subject we will have that paper read before discussing this paper if no objection is made. I take pleasure in introducing to you Mr. W. L. Ames, of Oregon, who will address us.

THE ADVANTAGES OF SHEPHERDING COMPARED WITH OTHER AGRICULTURAL LINES IN WISCONSIN.

BY W. L. AMES, Oregon, Wis.

In offering a few thoughts in favor of the sheep, I realize that I champion an unpopular agricultural line. Did I say unpopular? Rather, one that, though many are going to invest in, yes, sir, right away, for one reason and another, of the many that ought to, few carry that resolution into effect. In fact, there is, according to my observation, no line of agriculture, and especially in the stock line, against which there seems to exist so much unjustifiable dislike. A dislike partially manifest by verbal expression, but the most emphatically manifest by those parties to whom it would bring its richest returns, being the most persistent in ignoring its claims to a portion of their attentions. But to those who have accorded to the sheep a fair test as a factor in economic and successful farming, the subject is one that never lacks interest.

And that there is a sufficient number of those scattered about our state, whose presence and proprietorship is almost

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invariably manifest by well cleared, fertile, and well arranged farms, to warrant the allowance of a portion of the time of this convention to the discussion of the subject, need not be argued. In fact, it seems to me that a very important line of agriculture would be omitted, were it not to have received some attention, which, however, I believe it has not, in the general convention, since Andrew Kull addressed us, and aroused so much feeling by dwelling somewhat on the one seemingly touch-me-not subject of protection.

I was first asked to present the merits of a particular breed, and the party asking it well knowing that our interests lay in the line of the Merino, intimated that to be the breed that he desired me to represent. Had it been to be presented before a gathering of sheep men exclusively, I should have endeavored to comply, but to present to a general farmers' gathering, I asked, and received permission to generalize the subject a little more, and trust that it may be acceptable and that it may draw forth discussion that may be more profitable to the general farmer than the discussion of a particular breed would.

Whether the term "shepherding" be grammatically proper or not, is immaterial, but by it, I mean continuance in all the practical phases of the sheep business — not spasmodically following it in one direction now and another some other time, just as the fickle will-o'-the-wisp beacon chances to allure, but first, concluding that it is not distasteful to us, and then faithfully following it to the best of our ability, with the conviction in mind, that in the end, its results will be as satisfactory as those attained from any other line of farm labor.

As the heading of this paper implies comparison, let me early call your attention to dairying, beef, pork and grain production and raising horses, as its rivals.

In the agriculture of to-day, it seems to me, no point is more emphatically worthy of note than the tendency of the producing properties of our servant, the soil, and that no manipulator is worthy the title of success who does not so

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manage it that he at least maintains the fertility with which it first came to him.

Which of these lines may the farmer follow to-day, that will produce the most satisfactory results, and be accompanied by the fewest distasteful features.

To the extent with which "dairying" is followed it would appear to have many adherents. But I believe it is generally conceded that it is impoverishing to the soil unless fed from the bran bins of the northwest. I also believe that if a standing representation were called for of those who really enjoy the confinement incident to this line of farming, with all its other distasteful features, it would be emphatically of a minority nature. And, as followed by any other than its specialists, not satisfactorily remunerative. The "beef business" of to-day seems to promise future sustenance to those only who can buy, say two-year-old steers for a considerable less than it has cost to raise them to that age, and of these, to make the only profitable beeves of to-day; but before we stop to take breath, let us ask the question, what is to become of the man who raises the cattle up to the two-year-olds. As also the man whose bran goes into our dairy? Of the hog, it is said: "He has lifted more farm mortgages than any other of the stock line," but the spirit of "feeding the grain all out that is raised on the farm," is about as well carried out in feeding it to hogs in a yard, as it is generally done, where the return fertilizing elements are trod into and mixed with the soil of that yard, instead of getting back into the fields from whence it came. As that same spirit was in the case of the deacon, who, owning a farm himself, also rented one adjoining him, one of the express conditions of the bargain being that all the grain and hay raised on the rented farm, should be fed out on that farm.

The deacon followed the wording of the bargain to the letter, but hardly in spirit or intent. I think as he would take his stock there simply long enough to eat and then drive them back onto his own farm to ruminate and digest and to remain until they needed their next meal.

One other point that I desire to call attention to at this

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place, is the commercial value of the bulk of the feed that enters into the production of our beef and pork of to-day, cash grain being the basis of it all. The same also enters largely into dairying.

The risks of colthood, the generally exhorbitant fees charged in the beginning, the subsequent risks of wire fences and other accidents that horse flesh is heir to, lends an uncertainty to that business that is frequently discouraging.

And as to making a specialty of grain raising and selling, as this country did and other new ones are starting out to do, is a line which is in no wise to be recognized by logical or common sense. Although, in a tobacco district in this state it was argued not long since at a farmers' gathering that the refuse of the whole farm might, year after year go on to the tobacco ground, without detriment to the other portions of the farm. But this may be true of that locality, it certainly has failed in ours, and I think the majority of its tests would end unsatisfactorily.

Then an emphatic evidence of successful farming is the perfect maintenance of fertility without impoverishing some other man's soil or buying another farmer's grain with which to do it.

Compared with these lines and in these respects, what of the sheep? It is said of them "that they never die in debt," and if such can be truthfully said of anything I believe it can be said of them.

In the first place, the real cost of keeping them is comparatively much less than that of any other farm stock, for, while to make pork a great proportion of the food consumed must be cash grain, to make beef, butter and cheese, a goodly proportion, while to grow the sheep and place it on the market requires least grain of all, and exclusive of preparing him briefly for market, his living consists very greatly of nibbles here and there, which the bovine and porcine race would never find, much less make use of, and which would otherwise go entirely to waste.

I am often asked the question, "What is the cost of keeping a sheep a year?" The cost varies with each year,

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for while on the "about-100-acres" that we generally use for pasturing 450 to 500 sheep, previous to the last four dry seasons the same acres would have pastured nearly double that number, thus reducing the cost of their summer keep nearly half what it has cost the last four years. Do we have to buy bran and other grain to feed our sheep in order to keep up the fertility of the land our sheep occupy? We never have had to yet, neither do we expect to, our richest returns thus far in the sheep line, having come from our indirect income. And what is that? In most of our operations on the farm we think we do well if we get a little direct income. If, through the agency of our sheep on grain-impoverished lands, we can so recuperate those lands within the space of a few years that their producing capacity is nearly or quite doubled, and in the meantime harvest from those lands a remunerative crop of mutton and wool, we look upon the renovating effects of the sheep on these lands as an indirect income and with us, the most satisfactory. What other line can the same be said of?

In comparing sheep with clover as a renovator of exhausted lands, I would incidentally suggest, that the man that sows and raises clover, carries on a sort of legitimate robbery on his neighbor who neglects or fails to utilize this most useful plant, it being one that draws much from the air, assimilates and materializes much of its drafts from the elements, and then leaves them as permanent deposits in the soil through its roots.

Perhaps my theory is not well grounded, but after several years of observation in which the workings of the two agents, clover and sheep, on exhausted lands, have been so similarly beneficial, I am inclined to think that the principles that underlie those agencies are in some respects similar; at least to the extent that the sheep too, perhaps, inhale and retain elements from the air and after completing their use for them leave them as permanent acquisitions to the soil.

The fluctuations in the price of pork, beef and mutton of from 2 to 6 cents per pound, and almost as great ex-

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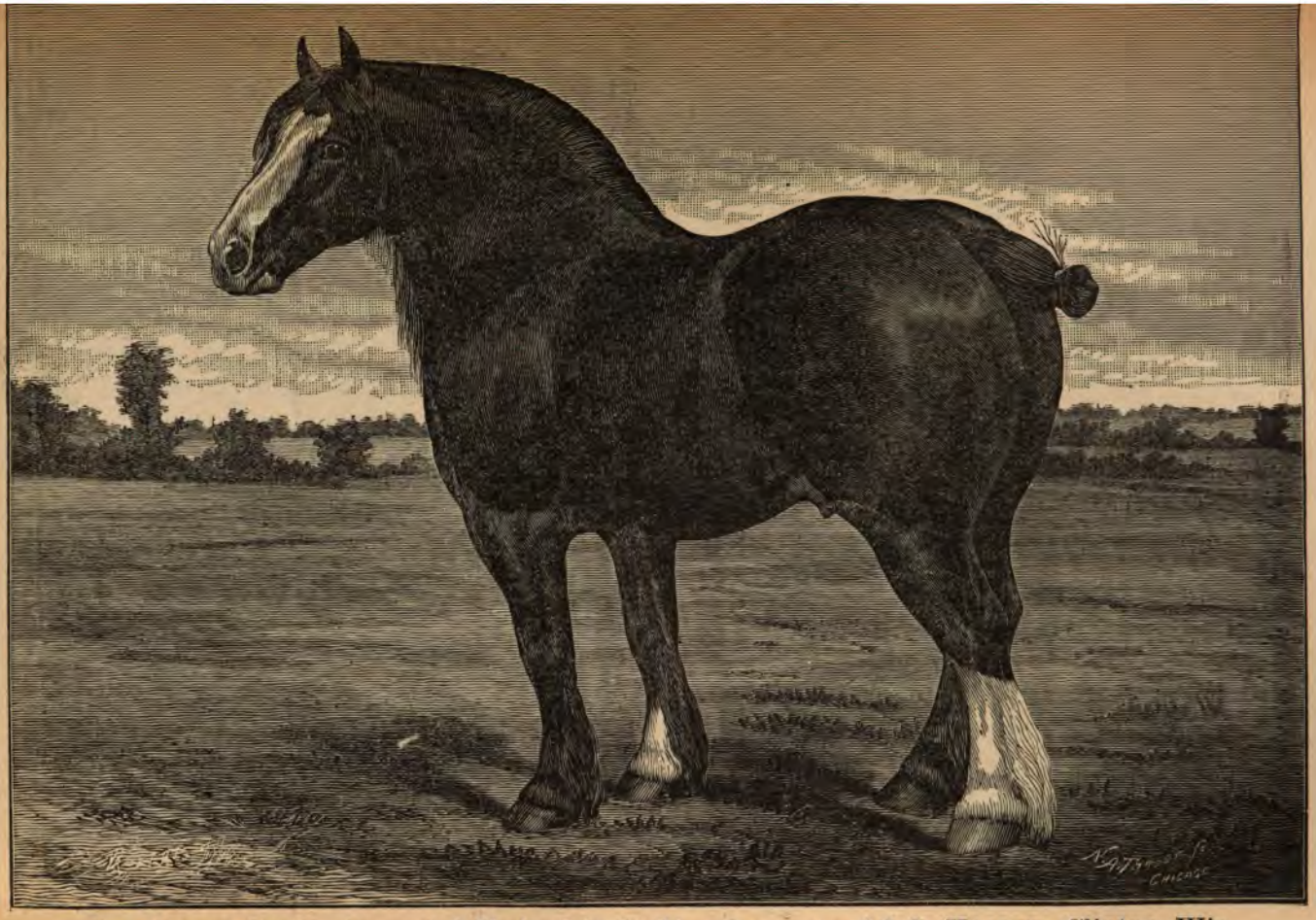
trends in the dairy business from time to time indicates that all agricultural lines have their ups and downs, and under the exhilarating influence of their ups, are well able to take care of themselves and those engaged in them. But it is when the other extreme occurs and the bottom seems to have dropped out of them as far as remunerating us in any way for the time, labor and attention given them and the food consumed in their production is concerned, it is then that we begin to stare and wonder what is to be done next, and even to exclaim, "Well, the promise of a living is not very flattering from this line of business."

We take our books and look the pork accounts over and we find that the most of that [illegible] cent pork has been made from cash corn to produce which called for a big outlay of labor on each acre engaged. The honest steer looks us in the face and meekly acknowledges that for similar reasons he too has cost us every cent that there is in him. The cow in the seasons of depression in the dairy business, as we sit down to milk her at regular intervals of twelve hours each, except Sunday mornings, when we have an extra lay-over of half an hour, for ten or eleven months in the year, affectionately swishes her soiled tail [illegible] in our face and occasionally sets her foot in our lap to express her gratitude to us for continuing in her line of business when the remuneration is so unsatisfactory.

The grain producer truthfully declares that besides the hay drawn from his farm, his oats at sixteen to eighteen cents, and other grain accordingly, have not paid the cost of producing it. Then we confer briefly with the sheep, and seeing by our looks as we approach them that we are in a discouraged and fault-finding state of mind, they with a unanimous bleat remind us that even though our direct income from them has not been satisfactory yet we must remember that we pastured them most of the summer on that hill land that we did not want to plow, and on that wood lot that was so full of wild plants and second growth sprouts that nothing else would eat, and on that lot we plowed and seeded that grain wouldn't grow on any more, and finally turned them into that pasture that the cattle



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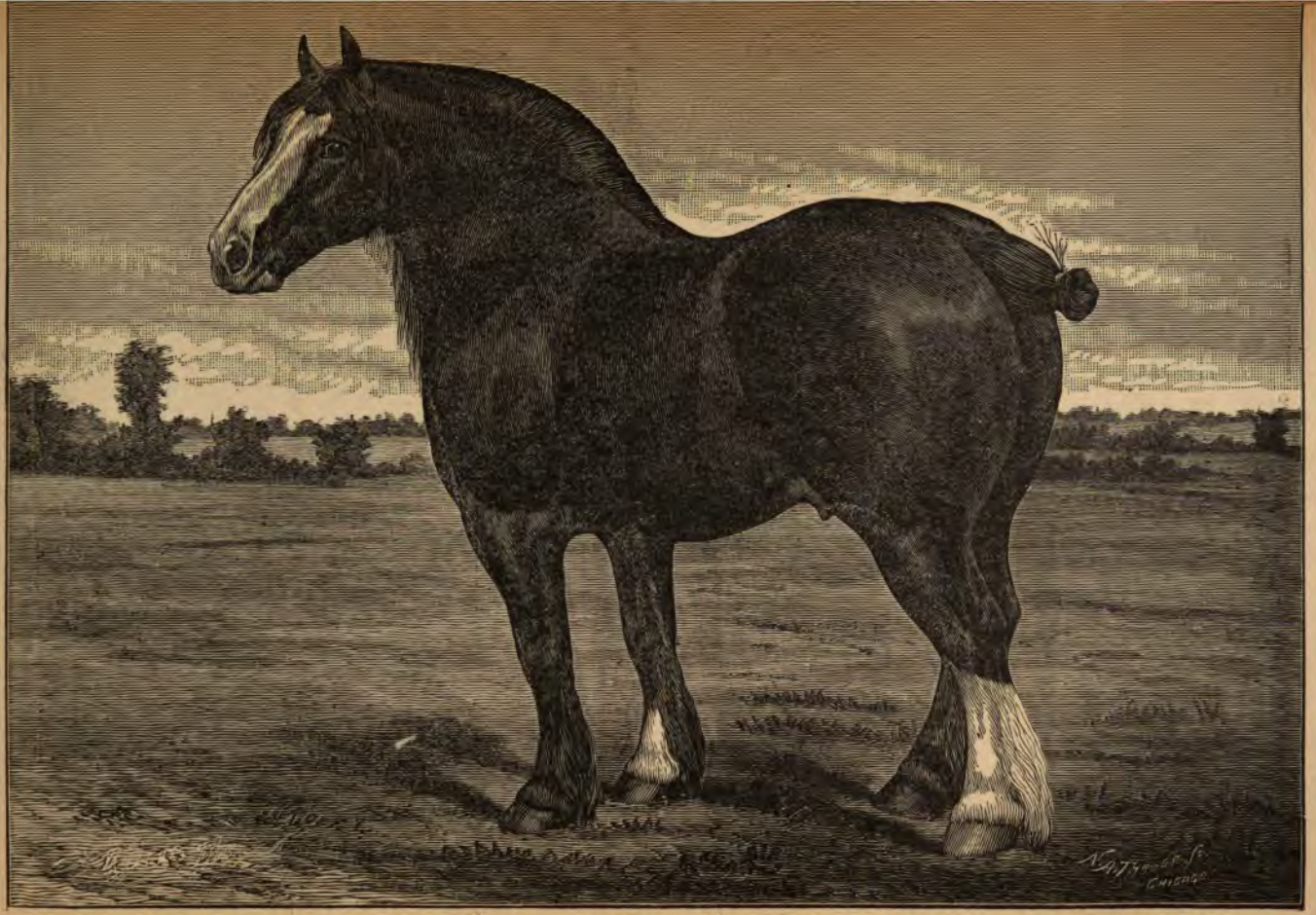

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couldn't live on any longer; and yet all through the season they were in prime condition to serve us with the most palatable of fresh meat. That early in the spring at least half of them presented us with a lamb that did not have to be taught to drink skimmed milk, nor be dehorned. That after we turned them out to pasture in the spring we did not have to again bring them in till about shearing time when they each gave us their old coats that sold from $1.50 to $2.00 cash, and that at a season when there was very little else coming in. And that later on in the season we closed the pasture gates after them and left them almost entirely to themselves at least twice; once for nearly two weeks while we intellectually feasted at the attractive "Monona Assembly," and again in September while we went east to York state, to visit briefly among friends, but unfortunately found them all so busy milking (for they were mostly dairymen), that their time for anything else was very limited.

And then they went right on and reminded us that it was just in those years of the most serious depression in their direct product, that we were keeping them mostly on that grain impoverished land that our predecessor in ownership had partly abandoned, because he could not raise grain on it any longer, but that utilizing it for their pasture for four or five years so completely renovated it that it nearly doubled in value and was again ready for profitable cropping, thus most emphatically demonstrating that indirect income that we mentioned before. Thus having fairly carried conviction with their argument they again quieted down, and we were left to but one honest conclusion, and that was that if our sheep business had been unprofitable what line of agriculture had not been even more so? But we were again reminded that to secure its best returns we must be continuous in it, as it is the line that though its market and commercial value be depressed, still as a factor in successful and independent farming it is still as valuable as though, on the markets it were enjoying a boom.

The question of "hired help" on the farm is one worthy of careful consideration, and one in which our own "New

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Country" differs widely from the "Old." That man who would *seek* to *develop* labor on his farm for the unemployed, more than what seemed absolutely necessary for the handling of his crops would surely be a novelty, and this perhaps is justifiable under the present apportionment in which the employed, if paid as per agreement, are thought to get fully their share with the employer. Then as this question relates to my subject, the dairyman must have, as help, good milkers, with which, however, this country does not abound.

To plow, sow, cultivate, raise and handle the grain of which the most of our pork and beef is produced from, calls for a host of common laborers, while to attend, provide and care for the sheep requires the least, and thus seems to fit the prevailing economic ideas of the present time, of employing as little farm help as consistency will admit of.

That, as a gardener, I am a complete failure I blush to, yet fully admit. Why? Because that hour or so *each* day, that should be given it, gets so irrecoverably mixed in with the field hours during the planting and cultivating season that before we know it they are entirely lost sight of.

Then we repent and resolve to spend a whole day or days if necessary, to redeem those separate daily hours, but it doesn't work. Those hours' work must be scattered in just at the right time. Could they be grouped as well, into days, I would much more readily guarantee to our farm a "good garden."

So with dairying. Could the one item that *has* to be attended to at regular intervals of twelve hours each, (except the Sunday morning half-hour lay off), be allowed to accumulate till a whole day could be given to its accomplishment, to the relief of the intervening days, *one* of the most unfavorable features of dairying would be overcome.

To the sheep, there are times when we expect to give our untiring and unceasing attentions. Pre-eminently during the lamb harvest, and at shearing time. But to us, these are of such importance that we plan for them in the season as much as we do for sowing, cultivating or harvesting our grain. But those once over we are again relieved from confining daily attentions.

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This winter we feed in the morning, shortly after sunrise, again at about ten o'clock. Water at noon, and feed last about one or two o'clock. In general, the *expert* workman should not be detained at common labor. It is not economy.

The farmer also, who happily finds himself in possesssion of an inexhaustibly rich soil, may put it to a better use than producing wool and mutton. But we all know that this last mentioned condition of the soil does not prevail on one farm in a hundred throughout our state. And we also know that there are thousands of acres being plowed and sowed or cultivated, for a few expensive bushels of grain, that would yield the owners an income fully as good or better, without the labor of annually tilling, if it were seeded and pastured with its capacity of sheep.

I have in mind an instance in our locality that I wish briefly to note.

A and B join farms. The portions that join are similar, being hill, but not rough land, the line fence simply dividing them.

A has for years pastured his hill land with sheep, at least six years out of eight, and thereby secured an income from those lands more than equal to B's, who, having no help of his own, has to hire all done except what his own two hands can do, and who has, during this same term of years, plowed and cropped his hill land each year, and if the crop has amounted to sufficient to pay the expense of itself, it has done well, I think. If men will thus continue, with observation as unobstructed as in this case, whom shall I hope to convert from the folly of some of their ways, by standing and talking here to-day. But I am at least satisfying the conviction of the lady who I recently heard asked this question: "If people will not learn that fire is hot by being burned with it, how shall we convince them?" "Why, by continuing to tell them that it is hot," she replied.

Realizing that your patience and my 20 minutes are both nearly exhausted, I will yet present but one or two concluding thoughts.

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First, my ideal of a successful farmer. He must be energetic both physically and mentally; be able to learn much by observation; to develop the output of his farm from the product of his own farm, thus concurring with at least one of the righteous ideas of "Edward Bellamy" in "Looking Backward," namely, that of obtaining our own meat by poisoning our neighbors' as little as possible; to condense his output, thereby retaining in the highest degree the elements of fertility, and to accomplish legitimate ends sought for with the fewest motions.

A second thought is on the flexibility of our farming today in this country, in which in many ways the advantages of the small farmer are fully in keeping with those of more extended acres. For while the plans of the latter can only be carried out by the employment of much disinterested help, the former can so perfect his own ideals and everything he produces, that he may soon become noted for the producing of only perfect types, and the value to him of this reputation, that he may, if he only will, attain to, is beyond computation.

Why do we keep sheep? Certainly not because we have no experience with other lines of stock, as we are continuous producers of sheep, hogs, cattle and grain. And they prove most remunerative to us, all things considered, in the order named.

The dairy business, though disagreeably confining, seems to be over done, especially in the production of bitter, solid, rubbery and indigestible cheese. While for the near future of the beef question, we are with everybody else, hopeful; still the discouragements of the near past need no mention. Of the grain fed to the hog, the fewest fertilizing elements ever get back to the land from whence they came; while the living of our sheep costs us the least, they do the most toward keeping the farm clear of foul weeds; tax the soil least that feeds them, and strengthen it most; are the least confining to attend; cause us the least trouble; are the most quiet, contented and easily handled; keep the farm in best producing condition. And the dollars that come to us through them, come the easiest of any that find their way into our languishing purse.

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Chairman — This subject is now open for discussion.

Mr. Clark — How many sheep do you keep on your farm?

Mr. Ames — We have four or five hundred sheep.

Mr. J. C. Ford — I want to ask a question or two from the gentleman who read the first paper. I want to know what his experience has been with the Oxford Downs, whether he has had any experience with that breed.

George McKerrow — Yes, I have.

J. C. Ford — What is your experience as compared with the other sheep?

George McKerrow — As compared with the other long wool breeds?

J. C. Ford — Yes.

George McKerrow — It is more hardy and is the best of the Downs.

J. C. Ford — What was the average yield of wool?

George McKerrow — Ten or twelve pounds.

Mr. Clark — Unwashed?

Mr. McKerrow — Yes.

Question — The mutton is the first consideration in raising sheep?

Mr. McKerrow — Yes, I consider mutton as first, and wool secondary.

Question — Isn't that becoming so more and more?

Mr. McKerrow — Yes.

Mr. Wylie — Could you make a profit raising sheep without taking the wool into question at all?

Mr. McKerrow — I think I could.

J. C. Ford — The Oxford Down would you prefer as a source of profit?

Mr. McKerrow — As compared with the long wool sheep?

J. C. Ford — Yes.

Mr. McKerrow — Yes, I would.

J. C. Ford — The fine wool sheep, as I understand it, are not profitable for mutton?

George McKerrow — No, sir.

Mr. Broughton — How large a flock would you keep in the same pasture?

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Mr. McKerrow — I have about two hundred in one pasture. I would prefer less rather than more.

Mr. Broughton — Don't you think quite a number less?

Mr. McKerrow — Yes, one hundred would do better.

Prof. Henry — The last day of the convention we should get down to business. Every man wants to express some idea, and in order to give them all time, I move that no man be allowed to speak longer than three minutes.

Mr. Clark — I wish to amend the motion to five instead of three minutes.

Prof. Henry — I accept the amendment.

Amendment carried.

Mr. John W. Hinton — I believe this does not apply to the resolutions which I have been requested to read. The resolution which I shall read was adopted by the National Association of Wool Growers, representing Mr. Chairman, one of the most valuable products known in the United States; and it will be submitted to this meeting; as I understand, for their adoption or rejection. In the first place there was this statement made; there is a home demand for 175,000,000 pounds of wool more than is raised here and the resolution reads that the wool growers ask of congress that (reads resolution which he afterwards handed to chairman). That is the substance of the resolution. Now, Mr. Chairman, I would like to ask of these wool growers, one or two pertinent questions. I am not here to make a tariff speech or to cause any controversy over this matter, but I am here at the request of several gentlemen, prominent wool growers, and I wish to say a few words on this important subject. I am not going, in any way to explain to you the cause of the conflict which is fraught with much danger politically; I am not going into an explanation of the rights and wrongs or anything of that kind. I know that there is no industry that has received so many slights in the state of Wisconsin as the wool industry. I know it has very few friends among the polititions. I am somewhat in the position that the sailor placed a clerk of the English church in. The sailor was told that nobody but the parson was allowed to speak, and when the clerk gave out the hymn, and the sing-

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ing began, the sailor accused the clerk of being the "cause of all the row that was going on." Wool growers have rights, and when they are claiming them they may do as was done in Ohio in 1883, elect a democrat as governor. There is another course open to the wool growers of Wisconsin, provided they had the power, to change their bucks into bulls, their ewes into cows, and their lambs into calves christening them all "Jerseys," and then they might receive some of the attention to which they are entitled, at present they are purposely, it seems to me, ignored.

Chairman — In refutation of the statement which the gentleman has made on the floor here that the sheep and wool industry has not been discussed in the Farmers' Institutes, I will say that I have attended one-half of the institutes and have spoken on the subject at every institute I have attended. The question calls to the farmers of Wisconsin as much as any other and we are going to make dollars and cents out of the sheep.

Mr. John W. Hinton — I agree with the gentleman —

Chairman — The time is up.

Mr. Clinton Babbitt — You are at liberty to take my five minutes.

Mr. John W. Hinton — You have one thing left to do as the farmers in Ohio did. Tell these men that if they do not pay attention to you you will elect the opposite side and I tell you they will come to you on their bended knees. You come here and talk and go home and grumble, but you do not act. Now I want to tell you that all of the gross system that prevails in the United States to-day was not originally any party question but eminated from the farmers. The greater portion of our population is farmers and you can have things all your own way if you only set about it in the right manner. You have the say so as to who shall and shall not be elected. You farmers have any amount of resources; get together and show them your principles, tell them how many there are of you and tell them that when they show that they respect your interests as well as the interests of others you will vote for them, you can command them at will. The question is not how much money you can make

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out of a lamb or how much money you can make out of a sheep. The question is whether you can sell the wool from those sheep. The state of Wisconsin if it started in could supply mutton sheep for the whole United States and mutton not be worth the grass. How can you sell your wool? I want to call attention to one thing that applies right to sheep. We need 600,000,000 pounds of wool. We raise about 240,000,000, and we were in that condition when the Rebellion broke out that this great country, this great eagle that is screaming everywhere, couldn't clothe 50,000 men; they hadn't wool enough in the country and if they had had the wool they had not manufacturers enough to make it into cloth. We were depending upon the very thing from which our independence was wrung, to get cloth and a mighty mean kind too, for I have heard soldiers say there wasn't much left of their blankets when they had traveled two or three days.

J. C. Ford — I insist that this is purely a political question. The question before this house is what are the varieties and breeds of sheep most profitable to raise in Wisconsin? It is not the work of this convention to raise or lower the duty on wool. There are men here who have had experience and who can give us the information we desire, and it is an imposition to have this question gone over and over again. It is an imposition on this convention.

The Chairman — That is right.

A member — We would like to hear from Prof. Henry.

Prof. Henry — We have put up a sheep shed 125 feet long so divided as to enable us to experiment with thirteen different kinds of sheep. This has been a great deal of expense for us. We are trying different lines of feeding, and hope to have good results from some of them to lay before you ere long.

Mr. Broughton — A sheep shed is all right as a sheep shed as far as it goes, was that object for practical experience in agriculture? But experiments that are of a different nature than what can be carried on on a well regulated farm do not do us as much good.

Prof. Henry — It may be more profitable than that. We

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may do more in making a pound of cheese in a new way than you can by an old way. It is the studying little things carefully that brings knowledge to our farmers.

A member—I would like to ask the gentleman if he has had any experience with Shropshire and Oxfordshire Downs.

Geo. McKerrow—I have handled Oxford Downs, Shropshire Downs and South Downs, and as far as I have had experience with them, I found little or no difference in them. In the lamb season it requires a great many, especially when the summer resort is open and the butchers are sending to Chicago and there are not lambs enough to fill the market. The Oxford Downs being larger, my preference is therefore for the Oxford Downs in locations where there is a great demand for lambs, they are larger and mature earlier. I asked a man what he called their good sheep. He pointed them out to me, they are a coarse wool sheep, and many of them were as large as the Cotswolds and Leicestershires and Lincolns.

John W. Hinton—You find sheep husbandry profitable, do you?

A. Yes, sir.

John W. Hinton—You find it profitable on account of the advantages of the home market?

A. Yes, and I ship to Chicago I usually ship a car load of lambs in December, bred in May.

Mr. Clark—Have you ever experimented so you are satisfied you can make a pound of mutton as cheaply as you can a pound of beef, and what the difference usually is between mutton and beef in the Chicago market?

A. I can't answer that question definitely. I have fed both steers and sheep for quite a while. My impression is that with a good grade of Down sheep I can make a pound of mutton as cheap as a pound of beef with a good grade steer.

J. C. Ford—I saw a statement in the *Democrat* that Mr. Sloan had been quite vigorously sat down upon by Mr. Adams, as, being a lawyer, he could not know how to raise beef. He has a flock of 50 sheep, the Oxford Down and Shropshire Down, and tells me the—

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Mr. Hutchinson — I would like to enquire about the amount of money he has received for his work How much money he has received from the wool, from the mutton and from the coarse wool sheep. If he can tell by comparison only, the amount received from the wool — if he can tell how much either one is, whether from the mutton or from the wool. That is the question we have to answer, how much is each one bringing us in. If he can do this and feel that he has made that amount of profit, he is the man to furnish the wool and the mutton for the country. We can tell a different story.

Mr. J. C. Ford — I cannot tell you the difference of course. The coarse wool sheep, we understand, grow wool as well as any other sheep.

Mr. Hutchinson — According to the statistics there are three and one-half times more money paid for wool taken from the sheep fold than what is taken for mutton. Three and one-half times more. We raise in wool, 240,000,000 pounds. It takes 600,000,000 pounds of wool to clothe the people. What then will be the comparison between the mutton industry and the wool industry of our country?

A member — Then you think the wool men ought to have three times as much time as the mutton men?

Mr. Hutchinson — No, sir, we want fair play and let you have your choice as to which you will raise. Shall we produce the coarse wool entirely or neglect that class of wool and raise for mutton, or shall we turn our attention wholly to the wool. There is another question I would like to call your attention to as stating the cause and effect in regard to these things at the present time. Our growers are only producing about one-third the amount of wool we consume. The farmers of Australia and South America are producing the rest. Our growers say they can not compete with them with grain at the price it is here while they have nothing of that kind to pay for, no expense for fodder. The climate is warm and the sheep forage for themselves, the year round, while here, the greater share of the time, we farmers have to pay for fodder for them; that is, have to raise it for feed, our labor is the same as money. The

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question I ask is, what kind of grain are you going to sow this year. I can't tell, I am a farmer and wool grower and always have been. I paid out money from my own pocket for years, to place this wool growing industry where it would help you and me. What I wish to bring before you now especially, is the question, what are we going to do. We have tried cattle, we have, since it has been unprofitable raising sheep, turned our attention to cattle and dairying, hog raising and horses, everything. We are now where we do not know what to do. The cattle don't fetch much. We have been in that business until we have floored that as well as the wool industry. Beef is to day fetching from two to three cents, I believe now it is fetching a little more. Pork is also in about the same condition; the dairying as a general thing is working that way.

Chairman — Time is up.

Isaac Clark — In our farmers' conventions throughout the state there has been a good deal said about the general purpose cow. Now I think if there is any article in the farming industy where the general purpose animal would be practicable it is with the sheep, especially where mutton is bringing the price it is now. Now don't any of you farmers get excited over the mutton question, you know the sheep as well as everything else, has depressions.

The sheep is on the top now and beef is on the bottom, but soon it will be reversed. The question with us is not, can we produce wool and mutton in Wisconsin and not in Australia; the question is, can we afford to keep sheep upon the farm and shall we keep mutton sheep or fine wool. The dairy business is very confining. My business has always been diversified farming and I believe it is the best. When beef is down mutton is up.

Mr. Broughton — You state that the sheep is on top and that beef will be on top bye and bye. You ought to be able to tell the exact time in order to take advantage of it.

Isaac Clark — We can tell that it will be soon.

John W. Hinton — Here is a statement I wish to make—

Chairman — You are out of order.

Mr. Clark, of Whitewater, called upon.

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Mr. Clark, Whitewater — I don't know as I have anything to say. I am a breeder of fine wool registered Merinoes. The public taste and fancy to-day runs to something else. You can see it is all for mutton and wool. Now it is Short-horns and now is the time to get ready for the good time that is coming, but while you are speaking of the wool capacity I will speak a little from my own experience. I have the same flock that I had since 1857; they are better to-day than they were then. Last year I sold 1,500 lots of wool and only one ram's fleece in the whole. Bye and bye when the time comes and they want good, thoroughbred Merino sheep for the wool we will be able to satisfy the demands.

Mr. Goodrich — As an old farmer who has been most regular in attendance to the conventions it seems queer to see bald headed and grey haired old farmers of the state of Wisconsin, some I have known for the last forty or fifty years, get up in this audience and ask questions upon almost every subject which has been canvassed here, of the boys. Boys who have been placed in the chair and boys running this convention. As regards Prof. Henry, there is no boy who has more respect from me and the other members of the convention than he. (Applause.) When I see the fear they had of something that might be said by an old gray haired man I was astonished. What is there a man may say here in a few minutes to an intelligent audience that can do any harm is difficult for me to understand. I do not like to have it understood and spread around that this convention was afraid to say something that might be said by somebody. The Agricultural Society of Wisconsin ought not to fear what anybody may say in a few minutes.

Mr. Broughton — I would like to ask Mr. Clark how many lambs he raised from ninety-five sheep?

Mr. Clark, Whitewater — Seventy-five per cent. of all I bred. The increase for stock sheep that year I sold for from ten to twenty-five a head. These, you understand, were thoroughbred sheep. I have sold wool for seventeen and twenty cents for the last twenty years.

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Question — How much refuse from those ninety-five sheep?

Mr. Clark — I have not the data with me.

A member — I do not want to occupy more than two or three minutes of your time. I wish to speak in favor of sheep husbandry. Without going into details I will say I have kept sheep continuously since 1835. I purchased in the state of New York 200 sheep, from a lot of imported Merinos. In 1842 I had those sheep brought to Beloit where I reside. I have never changed that flock. I have kept them continuously, and many of those sheep have been spread out throughout the different counties near where I reside. I wish now to back up the opinion expressed by the writers of those papers. I love those sheep and I never have made a change. I consider them a profitable thing to keep on the farm.

Isaac Clark — What kind of sheep did you say you had?

Answer — Two hundred full blooded Merino importation sheep, purchased in Livingston county, New York. I resided in Geneseo. The portion I left behind got the foot-rot. This last March I made an auction and closed up my business partially and sold the balance of my sheep. I rented to one of my neighbors. One of the conditions that I made was that he was to keep more or less sheep.

T. L. Hacker — I would like to ask Mr. Clark just two questions.

Chairman — The time is up and we must go to the next thing on the program.

EXPERIENCE IN FEEDING SWINE.

By THOS. CONVEY, Ridgeway.

So many features participate in profitable hog feeding, that it is not strange we find such divergencies of opinion.

The good feeder recognizes the necessity of having the right kind of a machine in the form of a hog, to convert food into something less bulky, requiring less transportation fees to put it on the market, and at the same time not

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removing from the farm twenty per cent. of the fertility that would be lost by marketing crops used in feeding. Large coarse hogs should be avoided; while they give greater weight for age, they do not give as good results for food consumed. They do not show the same perfection of form at an early age as smaller hogs, and consequently can not be marketed at an early age to the best advantage. The short, chunky hog, while an easy keeper, and fit for market at almost any age, I do not consider a profitable hog to feed. He can not consume and utilize the same amount of food in excess of the food of support, that the long-bodied, well-formed hog can, the latter making sometimes double the daily gain with a slight increase in feed, even where both animals belong to the same breed. The short, fine-boned hog is usually the product of immature parents, the result of poor feeding or want of age, or too frequently both, yet this condition applies to ninety per cent. of our breeding stock.

Were we to use other farm stock for breeding purposes when they had attained one-third the age of a mature animal, and only at that age, how long would we be in lowering their present standard?

The food of support is not, and can not be, any fixed percentage of an animal's weight, as it depends on the condition and disposition or temperament of an animal. Hence the necessity of producing an animal that can utilize large quantities of food and carry it in such form as to be of most value. We should not run after fancy points to the exclusion of others that show a disposition or aptitude to take on flesh.

The science of feeding would suggest to us the necessity of keeping up a continuous growth, and the greatest possible conducive to the object for which the animal is kept. It would be a mistake to expect to secure the greatest possible growth and at the same time secure the best breeding condition, by any line of feeding. It is also equally foolish to expect the best results where an animal is thin in flesh. The sow needs surplus flesh to carry her through the nursing period. And if it is produced by the right kind of food

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and acquired during the latter half of pregnancy it will not be injurious, especially where the sow takes sufficient exercise.

The first week after farrowing, care should be taken not to over-feed the sow, as it would injure her appetite or produce too great a flow of milk which would injure the pigs. After that, feed may be increased gradually; just as soon as the pigs show an inclination to take food they should get it. Soaked corn, peas, oats, sweet skim-milk, etc., may be given, just what they will eat up clean, put where the older hogs will not have access to it. Where the sow had a good coat of flesh to begin with, and sow and pigs are fed in this way, the sow will wean the pigs without checking their growth. I prefer early spring pigs, and since my attention has been directed to studying the nature of foods, by experiments conducted at our Experiment Station, I have no more difficulty in raising pigs then than at any other time; of course they must have comfortable quarters.

In feeding young pigs, we should be careful not to overfeed. What they will eat up clean three times a day is all that is necessary. Letting them run on pasture, providing shade from sun and shelter from rain. Do not feed heavy indigestible foods to young pigs. Skim-milk consists of about 90 per cent. water and 10 per cent. solid, yet owing to its digestibility it is one of the best foods to bridge over the weaning period, the most critical time with any kind of young stock, when if the animal is stunted, it never fully recovers from it, and the foundation is laid for unprofitable feeding. Many persons advocate the raising of fall pigs, putting them on the market in midsummer. The careful intelligent feeder may do this, but they will become diseased and stunted with the careless feeder.

If hogs can be wintered on clover hay or ensilage, in connection with a small amount of grain, as many persons claim they can, it may be possible to winter spring pigs and market them during summer at a profit; but the person who keeps hogs during two summers and one winter, and gets caught on the fall market, deserves no sympathy. The cheapest, easiest and best way to produce pork, is to

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feed grain while hogs have access to good pasture. It does not require a large amount of grain, and corn is not objectionable when fed on a clover pasture. You not only secure wonderful growth for grain consumed, but also lose little fertility in this way. It would be a difficult matter to determine the amount of loss that is incurred by feeding hogs in small pens, where inadequate means are provided for saving manure, either liquid or solid; there is not only a loss of fertility, but such quarters are wholly unfit for feeding purposes, and are especially injurious to young pigs in warm weather. Corn is unquestionably the cheapest and best hog food we have except grass, yet I would not recommend a ration of more than one-third corn for young pigs or breeding stock, and not more than two-thirds for fattening stock.

Scant pastures should be supplemented with refuse apples, Siberian crab apples, cabbage roots and tubers, squash, pumpkins, etc. Some of these are better cooked, and when they are cooked, are better mixed with meal. While these cheap foods are like skim-milk, and consist largely of water, we should remember that 40 to 60 per cent. of the live weight of a hog consists of water. The nutriment contained in such food is easily digested, foods of this kind counteract the bad effects of heavy grain feeding. They regulate the whole system, and increase the capacity of the animal to eat and digest more food, and also improve the quality of the product. No one can feed intelligently who does not understand the nature of foods and the requirements of the animal at the different periods of its existence. That breeding stock should be fed differently to fattening stock; that temperature is intimately connected with profits; that slow growth or no growth is disastrous to profits, these may be caused by poor breed or insufficiency of feed; that cheap food may be profitably used as part of a ration; that no comparison should be established between foods where each is fed singly, varieties of foods give the best results; they should be combined with due regard to the elements of nutrition they contain; they should be in

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harmony with the combination of elements existing in the animal, with due regard to digestibility.

At what weight to sell hogs is a debatable question, it being governed by the following conditions: The young pig when dropped is somewhat expensive owing to the cost of keep of the parent stock. The least expensive pork is put on light weight hogs; but the vital question is, is the pig giving a reasonable profit for food consumed. Commercial lard is largely adulterated with cotton seed oil, hence the diminished demand for heavy hogs, the light hog commanding a better price during the principal part of the year. I do not think the most profitable weights are under two hundred pounds. This may be governed by condition of market.

EFFECTS OF DIFFERENT KINDS OF FOOD ON GROWING PIGS.

By L. H. ADAMS, Supt. State Experiment Farm.

The persistent effort and steady, unswerving policy of Prof. Henry in outlining and directing the attack of the Experiment Station forces upon the walls of ignorance which surround us on all sides in regard to feeding problems is having its effect, and one of the results is to increase the confidence that we, as stockmen and feeders, have in our own ability to influence largely the health and character of the young, growing animals which we raise on the farm, by wise and judicious feeding.

DIFFICULTIES OF ADVANCE CALCULATION.

The probabilities are that we will not soon reach the period in the feeding of live stock when we will be able to calculate, in advance, just what results we may get by the use of certain foods of known character, for the reason that animals differ widely in their capacity to assimilate food. The individuality of animals renders it difficult to estab-establish the results that follow a certain line of feeding by experimental research. For instance, you start with a lit-

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ter of pigs that, so far as you are able to judge, are as nearly alike as it is possible for them to be, and put them all on a certain ration. It matters not for the purpose of the illustration whether that ration be a properly balanced one or not. Suppose that there was some necessary element of food lacking in it, what is the result? In a short time those pigs will begin to vary from the standard of uniformity which characterized them at the start. Perhaps a majority of them will go onward and develop into fair sized hogs, but there are always some which seem to do pretty well up to a certain period of growth, when suddenly they seem to have reached the limit of their powers of endurance and there is no more progress. If you could have seen this demonstrated repeatedly, as I have at the Experiment Station, you would have no doubts of the importance of feeding brood animals for some other purpose than that of merely keeping life in them. If I succeed in so presenting this subject to you as to encourage thoughtful consideration, my efforts will not have been in vain.

SOME FEEDING EXPERIMENTS.

The experiments which I shall relate were confined to the feeding of young, growing pigs, but before considering the question of the effects of different kinds of food upon the carcass and internal organs of swine, let us study some of the foods most commonly used in raising pigs, in order that we may see the necessity of providing a variety of food and supplying it in proper proportions to obtain the maximum benefits at the minimum cost.

In an experiment in feeding skimmed milk and corn meal separately, four Poland China pigs, eighty-six days old, and weighing about fifty-four pounds each, were divided into two lots. To one lot was fed all the sweet skimmed milk they would take; the other lot was fed cornmeal soaked in water. The trial continued twenty-five days, when the feed of the two lots was reversed and after a week's intermission the experiment was run twenty-five days longer, the average results of the two periods being as follows: It required 4 pounds of cornmeal to make one pound of growth and 19

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pounds of skimmed milk to make one pound of growth. Bear in mind that the milk and meal were fed separately and were the exclusive ration.

A BETTER BALANCED RATION.

In a trial to determine the results of feeding milk and meal together, four lots of pigs, two in each lot were taken. They were of about the same age and breeding as those used in the former trial, and the experiment covered a period of eighteen days, with results as follows:

Lot 1 received sweet skimmed milk and cornmeal in the proportion of 5¼ pounds of milk to one pound of meal, and 6 8-10 pounds of milk and 1 3-10 pounds of meal, produced a pound of growth.

Lot 2 received milk and meal in the proportion of 10½ pounds of milk to one pound of meal, and 9 6-10 pounds of milk and 96-100 of a pound of meal produced a pound of growth.

Lot 3 was fed about 1½ pounds of milk to 1 pound of meal and it required 3 3-10 pounds of milk and 2 pounds of meal to make a pound of growth.

Lot 4 was fed nothing but soaked cornmeal, and it required 5 pounds of meal to make a pound of growth.

Figuring skimmed milk at 20 cents per 100 pounds, and cornmeal at $14 per ton, results were as follows:

Pounds gain in 18 days.	Composition of food.	Cost of gain.
Lot 1—59 lbs.....	5¼ lbs. milk to 1 lb. meal.....	2.2cts.
Lot 2—76¼ lbs.....	10½ lbs. milk to 1 lb. meal.....	2.5cts.
Lot 3—76½ lbs.....	1½ lbs. milk to 1 lb. meal.....	2.0cts.
Lot 4—33¼ lbs.....	All corn meal.....	3.5cts.

It is thus seen that the cheapest gain produced was where one and one-half pounds of milk were fed with one pound of meal. The experiment also illustrates the importance, if the object is to make growth as cheaply as possible, of

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feeding sparingly of the expensive protein foods, such as milk, shorts, oats, etc., not using more than is necessary to insure healthy and symmetrical development. But on the question of whether the withholding of bone and muscle foods, because of their costliness, is profitable under all circumstances or not, the following experiment may throw some light:

IMPORTANCE OF PROTEIN FOODS.

In this trial the food used was skimmed milk and corn meal fed in varying proportions to three pens of pigs, three pigs in each pen. They were grade Poland Chinas, and their average weight was 37 pounds each when the experiment commenced, which lasted 135 days.

Pen No. 1 was fed in the proportion of 3½ pounds of milk to 1 pound of cornmeal, and to make a pound of gain with this mixture required 7 4-10 pounds of milk and 2 1-10 pounds of meal.

Pen No. 2 was fed 1 pound of milk to 1 1-10 pounds of meal, when 2 6-10 pounds of milk, and 2 8-10 pounds of meal made a pound of growth.

Pen No. 3, was fed 1 pound of milk to 3 pounds of meal, when 1 1-10 pounds of milk and 3 3-10 pounds of meal made a pound of growth.

Figuring the value of milk and meal the same as in the preceding trial we find the cost of growth with the various combinations of food was as follows: When 3½ pounds of milk were fed to 1 pound of meal, a pound of gain cost 2 9-10 cents; with 1 pound of milk to 1 1-10 pounds of meal, a pound of gain cost 2 4-10 cents, and with 1 pound of milk to 3 pounds of meal a pound of gain cost 2½ cents.

The daily gain of the three pigs fed the largest quantity of milk was 4 pounds; that of the three fed the next largest quantity was 3 1-10 pounds, while those getting the least milk gained 2 7-10 pounds daily. Here again the gain decreased in proportion as the quantity of milk was reduced below a certain point. This trial seems to guide us in the same direction as did the preceding one and leads to the conclusion that if we wish to make pork rapidly, a liberal

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portion of milk should be fed with corn meal, but that such feeding is not the most economical when the cost of product is considered, and that 1 or 1½ pounds of milk is as much as can profitably be fed with a pound of corn meal when milk is valued at 20 cents and meal 70 cents per 100 pounds.

EFFECTS OF NITROGENOUS FOODS ON THE BONE.

But here again arises the question alluded to a few moments ago in regard to the policy of withholding those foods rich in bone and muscle forming material, under all circumstances, because they add to the cost of the ration. Let us see what effect this skimmed milk had upon the bones of the pigs fed in the experiment last related. All of these pigs were slaughtered when the 135 days feeding was completed and notes taken on the condition of the carcasses and viscera of the different lots. The thigh bones were taken from the hams of each pig and subjected to a test upon a machine at the University to determine the amount of resistance the bones made from the different rations would offer before breaking. The average pressure required to break the bones of the pigs that received the most milk was 971 pounds. The bones from those which got 1 pound of milk to 1 1-10 pounds of meal broke at a pressure of 725 pounds, while those fed 1 pound of milk to 3 pounds of meal broke at a pressure of 530 pounds.

Now, the point I wish to impress as demonstrated by these experiments is that in order to convert food into pork at the lowest possible cost it is necessary to use milk, shorts, oats and other nitrogenous foods sparingly and make them go as far as possible. It does not necessarily follow, however, that this is the wisest plan to pursue with breeding animals or in the first few months of the young pig's life. To illustrate this point I will give the results of an experiment made at the Experiment Station farm the past summer with a lot of pigs, which came as near yielding an exclusive corn product in pork as was possible to get.

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WHAT EXCLUSIVE CORN FEEDING DID.

A litter of seven pigs was farrowed May 24. The sire and dam were both rugged animals, and the seven pigs weighed 18¾ pounds when born. The mother, while suckling the pigs, was fed skimmed milk and corn meal in the proportion of 3 pounds of milk to 1 pound of meal. As soon as the pigs would take any extra food they were given the same ration. At the age of 70 days they were weaned and from that time on they were fed nothing but corn meal and water for seven weeks, or until they were 119 days old. At that time six, of uniform size, were selected for a continuation of the experiment and placed in three lots of two pigs each. The odd pig was turned out with others receiving a variety of feed. From that time on all were fed corn meal and salt with only rain water to drink. The only difference in their rations was that Lot 1 was given a little bone meal daily; Lot 2 a little wood ashes, and Lot 3 had nothing but meal, salt and rain water. The object of the experiment was to feed them as long as they could stand it, then kill them and note the effect of the feeding upon the bones and internal organs of the different lots. At the end of 13 weeks from the time the experiment began, when they were 70 days old, those fed only corn meal had reached the limit of their powers of endurance and we were obliged to slaughter them. Twenty weeks of exclusive corn feeding had rendered healthy pigs utterly helpless. The short life-time of these pigs makes it doubly interesting to note the effects the bone meal and wood ashes produced upon the bones of those to which they were fed. It required an average pressure of 407 pounds to break the thigh bones of those fed ground bone; the bones of those getting wood ashes broke at 340 pounds, and those fed only corn meal and salt broke at 306 pounds.

STRENGTH GOVERNED BY ASH IN THE BONE.

A few ounces of ground bone fed during the thirteen weeks made thigh bones of the pigs which ate it 100 pounds stronger than those of the pigs fed only corn meal. The bones were taken to the laboratory and burned to deter-

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mine how much ash they contained, and it was found that the thigh bones of the two pigs to which ground bone was fed yielded 109 grams of ashes; those fed wood ashes 99 grams, and those fed only corn 88 9-10 grams. The strength of the bones of the different lots was just in proportion to the amount of ash they contained.

The odd pig that was thrown out and received a variety of food developed into a fine large hog. The only evidence he gave of having received too much corn at some period in his life was a weakness in his legs. It was evident that the bones were not strong enough to support the weight they had to carry.

While it is undoubtedly true that there is no single food within the reach of the feeder having greater possibilities than corn, it is also true that there is no food with which we can do ourselves greater injury when improperly fed to young growing animals. It is well, then, to avail ourselves of all the good we can get out of these experiments and not hesitate to supply our breeding animals, and all young, growing pigs, with an abundance of bone and muscle forming food the first few months of their lives, and get them well started, when high pressure feeding with corn can be practiced safer and with better results.

Isaac Clark — Were those pigs of the same breed and the same mother?

L. H. Adams — Yes, sir.

Isaac Clark — Let these experiments be published in pamphlets and distributed throughout the state to the farmers, and I say it would be worth hundreds of dollars.

Prof. Henry — The farmers who do not now have their names upon our mailing list are solicited to give us their names. We will then mail you the annual report.

Mr. Wylie — I would like to know if the hogs had access to the corn?

L. H. Adams — No, sir. They could not get out doors to exercise and we did not want them to get any more than we gave them, we kept it covered.

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Mr. Gordon—Is any one here feeding for lean? And with what result?

Mr. Convey—I think the principal advantage in feeding is in feeding for lean. The object, of course, is to obtain a better quality of breeding stock and at the same time a better quality of pork. I do not think there is much advantage in feeding for a better quality of pork unless it be for the market. There is a decided advantage in breeding for lean, breeding for more muscle and a better breeding stock, or better capacity to consume the food.

Isaac Clark—Don't you believe it is economy to feed something to build up the muscles in dollars and cents, and saying nothing about the health of the animal?

A. I think the impression in the papers is strong. I would consider it an actual necessity.

L. H. Adams—This morning there was a gentleman visiting the farm who makes a practice of shipping a great many hogs in the winter time. He told me he always made it a point to ask the farmers how their hogs were fed, for he had sustained large losses for hogs not correctly fed. That is, when he got them to Chicago, he wanted them to reach there without breaking their legs.

Isaac Clark—A few years ago I thought I could feed anything to make them grow that I could feed the cheapest. To-day I do somewhat differently, and raise very fine hogs. There was one lot of hogs I kept and fed corn and did not allow them exercise enough, and when I got ready to ship them, before I got them loaded one broke its leg. I suppose it was because of not having exercise enough to develop the strength of its muscles. And before I got them down to the depot the hogs in the wagon had broken another leg. There were two gone. This I speak of merely to show the necessity of feeding something to strengthen the animal.

Mr. Gordon—What do you think of feeding skim-milk and butter-milk as a matter of economy?

Mr. Convey—Mr. Adams can answer that.

Mr. Adams—I refer to Prof. Henry.

Prof. Henry—Chemically, the skimmed milk does not

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differ but slightly from other separated milk; it ought to be worth about the same. The value of butter-milk depends on how thoroughly you have churned the fat from the milk. We have known of instances where only 37 per cent. of fat was removed; 43 parts of fat were left in the buttermilk. If the cream is well churned the butter-milk does not differ from skim-milk, although I do believe it does not produce as much pork as the milk.

Mr. Robbins — Is it better to feed dry corn ground or without being ground?

Prof. Henry — We have not experimented with feeding ground and unground oil meal. We have fed the whole corn fairly well.

Mr. Robbins — Our experience is that dry corn is better than meal. We feed the ear, whole ear, and the pigs do better.

Mr. Wylie — In regard to buttermilk, do you think there is a difference in feeding the buttermilk as regards the age of pigs? Is it as good for a young pig as for one seven months old?

Prof. Henry — It is better for the older pig.

Isaac Clark — In limited quantities will it injure a young pig?

Prof. Henry — No; sir, I know some people who raise calves with sour milk. Some pigs will do very nicely with it. A friend at my right wants to know if buttermilk is better chemically. It does not produce more pork than skim-milk. We have not fed it out here. Buttermilk is limited in quantity and we have not had enough to carry on the experiments fully.

Chairman — We have an advocate of whey here, Mr. Fleming, and would like to hear from him.

Mr. Fleming — I am in a lot of trouble, I have the grip, but Mr. Chairman, and gentlemen, I am an advocate of feeding whey. If you can take whey, no matter whether from Limberger cheese, Cheddar or domestic cheese, it has a feeding value for both hogs and calves. It is better mixed with ground meal oats. I am an advocate of grinding the meal.

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Prof. Henry — I would like to ask Mr. Convey what age he turns pigs upon clover and how he manages clover feeding?

Mr. Convey — The clover is not of very much advantage to the very young pigs, but it is a very decided advantage to the older hogs. If you have early spring pigs you can pasture on clover. You do not turn them on too early in the spring.

Prof. Henry — How tall should the clover be?

Mr. Convey — Do not turn hogs on too early in the spring and don't keep them on too long in the fall.

Prof. Henry — You did not understand my question. How tall ought the clover to be?

Mr. Convey — I never like to turn them on too early. I like to have it blossom. Four inches or thereabouts is about right.

Prof. Henry — How tall is the clover when you turn the cattle on first?

Mr. Convey — About that heigh (indicating) before turning the hogs on it.

Prof. Henry — Four inches?

Mr. Convey — Yes, sir. If you allow it to become too high or too rank, the hogs do not do so well on it.

Prof. Henry — We want to get as many facts from the farmers here as possible. Do you run cattle in the same pasture with the pigs?

Mr. Convey — When the clover gets too rank.

Prof. Henry — If you had a seventy-five pound shoat on the clover, how much feed would you give it?

Mr. Convey — A one-third corn ration.

Prof. Henry — How much?

Mr. Convey — About one to two pounds a day.

Prof. Henry — Do you find trouble sometimes in your pigs wading around and not eating clover as they should?

Mr. Convey — They are in the clover pasture at certain times a day. You do not want them there all the time and expect to get the best results from feeding clover.

T. L. Hacker — What time of the year do you have your pigs come that you turn on the clover?

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Mr. Convey — In the early spring months, March or April.

Mr. Hacker — Why not in January?

Mr. Convey — There is considerable cold weather then. They would be better in January. Yes.

Mr. Hacker — My pigs come in January. One came on the 16th day of January. Between the 21st and 25th another. They are twelve of them exceedingly fine and promising. The whole twelve are doing very nicely. That is the proper time to have pigs come to be of the proper age to turn on clover in the spring.

Mr. Wylie — Will you please tell how you are managing the litter?

T. L. Hacker — Feed them on skim-milk, buttermilk and shorts and a little ground oats.

Mr. Wylie — Do they have exercise?

Mr. Hacker — They are in a little six foot pen one way and eight feet the other.

Mr. Wylie — Arn't they too fleshy?

Mr. Hacker — They are just now but I will give them exercise later.

Mr. Babbitt — What difference do you find in the clover and the blue grass?

A. I find they do not take very readily to the blue grass pasture where they have clover pastures.

Mr. Babbitt — My experience is entirely different. I have the most successful results when I turn my hogs into the pasture and do not give them a particle of feed until ready to fat. Last year I did not give my hogs any corn, nothing but grass during the summer. I turned them off at five cents a pound. Every one weighed over 400 pounds and I sold ten head for $143. These were young hogs not over seven months of age.

Question — How many hogs should a good acre of clover carry? And what is the best clover?

Answer — Ten or twelve hogs can be kept on an acre of best land.

Question — Would you advise a farmer to have his pigs come in January, February, April or May?

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Mr. Convey — If you have the intelligence and a way of taking care of them you will be amply repaid for having them come in the earliest season. If you are not provided with a suitable place for them to come, you will better have them come in April or May.

T. L. Hacker — This idea of the common farmers not having suitable places for their cattle, I do not take to. I believe more common farmers can have comfortable quarters for their animals. It does not take but a little time to make a comfortable shed. It depends simply on whether he is a man of any gumption or not.

Mr. Babbitt — I do not believe in housing an animal that does not require it; that housing is distasteful to them. In regard to this pasture business in connection with feed. I have not fed but five rations this year, and my stock look as well as any farmers. I have only fed five rations this year to my horses; they have the blue-grass bottoms of Wisconsin to feed on. I turned in to my pastures when the grass was that high (indicating), and it stands there to-day. The horses have only been in the barns five times this winter. I do not believe in being a slave to the animals we take care of. My animals are so attached to me they will cross a stream of water to kiss me. I was telling a friend of this and told him I could call one of them to me. He said you cannot do that. I called, "Bessie, come here"; she came and a Southdown buck followed her. You can be kind to animals without making slaves and niggers of yourselves.

Mr. Wiggins — Is it possible that you can take animals and treat them in that manner he talks of treating them and have them swim a big stream of cold water to kiss you unless you feed them something.

Mr. Babbitt — It depends on the manner in which you keep your pasture lands. There is a great deal of difference in the kind of cattle.

Mr. Wiggins — I never yet saw an animal but what you would have to give them more than five feeds in the winter to have them swim a stream to kiss you. Stock

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must have plenty of feed if you expect them to think enough of you to swim a stream to kiss you.

Issac Clark — I do not pretend to know any more about farming than I ought, but I fear the impression may get out that January is the proper time for our sows to drop their young. I want to say one word in opposition to such an idea. I used to try to have my pigs drop their young in March, because I believed as cheap pork as we can make is to feed the pig good the same as any other animal. I have pigs, horses, cows and sheep. They may come sometimes in January and be all right but that is not all that we have to think of. We have our feed to take into consideration. I object to that impression prevailing in this convention that a man should have his sow drop her pigs in January or any time previous to March. Why don't you take care of them? I do.

A. A. Boyce — I have had experience in breeding and I do not want this meeting to believe and think you can make sows drop their pigs earlier than April and have good strong pigs. With all the feed you are able to give them you cannot have strong pigs. Nine out of ten born in one month will die the next. When the sows can have access to the grass they can produce stronger litters and you can raise more pigs. That is my experience.

Mr. Goodrich — I have been interested in the discussion on the question of hogs. My father used to say the earlier the hog was, so much heavier. In olden times they used to have more things to contend with. For instance, they had to tie knots in the pig's tail to keep them from falling through the crevices. Some of the shippers to-day have difficulty in shipping hogs on account of their being too fat in proportion to their strength, and are apt to break their legs. The most amusing sight I ever saw in my life was to see a Norwegian run to catch a hog my father gave him. He ran half a day but he got the hog. The hogs of to-day differ from those. One gentleman has told you his experience and said he would rather have his sows drop their pigs in January or February; another would rather have the pigs come in the early spring. I would rather have the pigs

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come along in the summer, in August or September when the weather is warm and when the sow is of good shape, and the little pigs will look after themselves, they root hog or die. The June grass is good as well as any other grass I have used. My experience has been in favor of raising hogs in the summer and selling in the fall, and merely winter the shoats. To-day we have 80 little shoats growing, and it does not take very much to keep them; they are as hardy and healthy little creatures as I ever saw. In the spring they will stock the farm with hogs. One gentleman is in favor of feeding skim-milk, another buttermilk and another whey. My experience has been that buttermilk is one of the best rations to make a hog thrive. If you are running a dairy, so much the better for your hogs. I have fed various things and it seems as if there was nothing that could make the pigs grow as well as buttermilk. If the pigs come in the summer they have a better chance of living and can root with the hogs and feed on the roots fed them. I maintain that it is cheapest and best to have them come in the summer. Let them run out in the pasture with the hogs; let them look after themselves as long as they will.

Mr. Wise — I would like to ask the gentlemen how much his hogs average when he markets them in September?

Mr. Goodrich — Average 420 pounds, along the last of August or September, the hogs in the spring average from 300 to 350.

Mr. Wiggins — I would like to ask the gentlemen whether by having hogs come in August he can feed them through the winter cheaper than in the summer time? If he can do so what kind of stabling he has. When a man talks of feeding as cheap in the winter time as in the summer time, it seems to me he is off. If you talk about raising hogs and having them come in September he is away off again. The proper time, gentlemen, to have hogs come is in the spring and then you can market them before you have to keep them over one winter without having to furnish feed to keep up the animal heat.

Mr. Goodrich — Four or five shoats can be kept all winter

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on tne same feed as one large hog. They are healthy and run around and get their living; they have developed their bone. About the same amount of corn that will keep one big hog will keep three or four or five shoats.

Chairman — Meeting is called to order. The President of the Horse Breeders' association is detained at home by sickness.

Member — I move that Mr. Wylie keep the chair.

Chairman Wylie — Gentlemen, what is your pleasure. I am informed there is no regular program.

A Member — Call on Dr. Blake.

Dr. Blake — Mr. President: I am really not a member of the association that has been named as a Morgan Horse Association, although I have an interest in the raising of horses. My experience in Morgan horses has led me to think more of that breed than any other I have been acquainted with. My business has been on the road a good deal of the time and I have found that the Morgan horse is better adapted for road purposes than any other team of horses on my farm. They have some traits that render them a very valuable horse. I do not think there is another horse possesses so many valuable characteristics as the Morgan horse. You will find they have a mildness of temper, spirited and proud, will satisfy the most fastidious idea of a carriage horse.

They are quite rapid. They possess considerable of the pacing element. Many of the Morgan horses are very much inclined to be pacers. There is one characteristic that I find possessed by the Morgan horse more than any other breed, that is the power of endurance on the road at a rapid speed. I never saw any other individual horse that can compare with some of the Morgans I have known and possessed. I never saw a horse so tireless, one that after doing a hard day's work a man can hitch up and go to the depot with. You can tell a horse's value when you come to start as well as under way, and a horse that does not notice a day's work and starts off at a lively easy gate is one which it is a pleasure to ride after. They are an under sized horse but when we consider their form and power of endurance,

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you cannot build a horse any different style and have them have the same power of endurance. They are level headed for a horse, you can educate them to do what is above any other family of horses. When you consider this quality of brain, it is a very desirable and valuable thing to obtain. This is one of the many good qualities the Morgan horse possesses. They possess prepotency. They seem to vitalize when crossed with other horses. You will find the strongest powers of other horses would breed out when mixed with other horses. These do not. These are traits to my mind very valuable in the horse and is what I would recommend if called upon to express my opinion when you study the history of the race course, find what animals have made the greatest speed and have shown best you will find many of the very best horses, the most valuable, have been the longest successful. You will find there was a large distribution of the Morgan blood in the horses, so much so that it is considered one of the most valuable bloods to cross the Hambletonians, Clays and other trotting horses. There is a good deal in the individual. I believe that the family of the Morgans, as a family, have retained their qualities and leading characteristics. I believe they still possess the elements and characteristics that will rank them to-day with the carriage horse in a greater degree than any other one family. I think that those who are endeavoring to perpetuate that stock are doing so great and good kindness to the community as any class of men that you can find. I find we have a gentleman here from Illinois who has what we call the headquarters for the Morgan horse. I refer to Mr. Hinman and hope that the president will call upon him. In my opinion I would compare the Morgan horse to gold. As the gold of California is among the precious metals, so is the Morgan horse the more precious among the equine race.

Chairman—Let us hear from Mr. Hinman.

Mr. Hinman—Really it is unexpected to be called upon. I came to listen to the speeches and papers, and really am unprepared and not being in the habit of talking, it places me in rather an embarrassing position. It is, however, a subject, that to me, in the last few years, has been very in-

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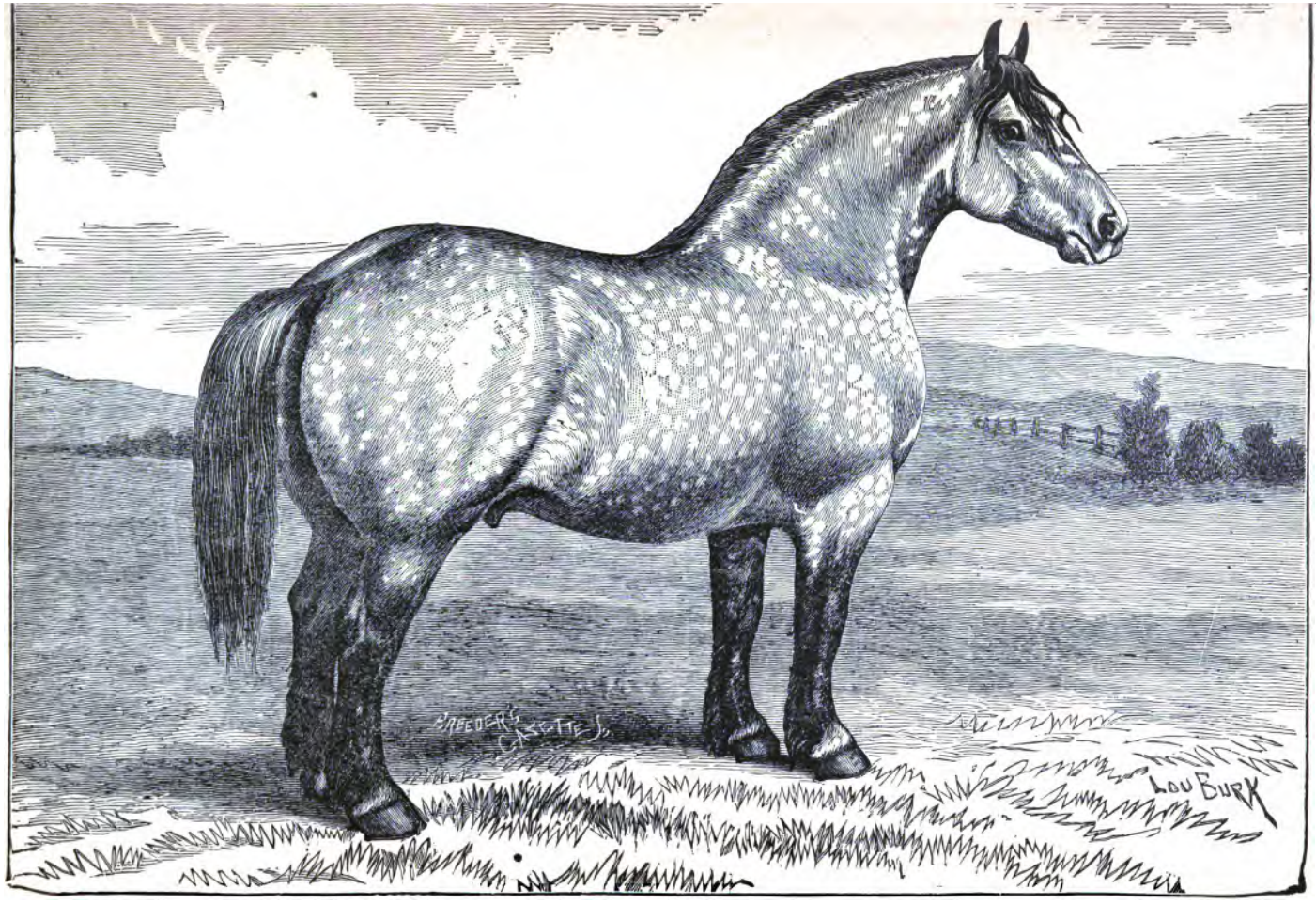

POLLUX 5296 (4759).—Percheron Stallion, owned by BOLES, HADDEN & Co., of Janesville, Wis.

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teresting, and has occupied a certain portion of my spare time. I may say that if I ever had anything that paid me well for the time expended it has been that one subject. The family is possessed of great age. Many of the younger generation know, really personally, very little about the Morgan horse. Have been raised and live in the age in which the great tendency has been to speed, speed, speed at any sacrifice, no matter what, but we must have speed, and having lived in such an age, the great question we have to meet has been not so much a family of horses, but individual horses that are capable of great spurts of speed. The older men, men who have been growing horses in their manhood, say 24, 30 to 40 years ago, most of them bred the horses of that period and can make quite a comparison between the horses of the present day and the horses they used to ride after. Horse buyers say it is impossible for them to buy matched teams, such as they could get 25 or 30 years ago. One man told me, "I have been three months on the road with $300 in my pocket to buy a matched team — a team such as would meet the requirements, and I cannot find them." Why? Because we have bred with such a carelessness that we have nothing but a miscellaneous set of horses to select from. We have no distinct family; we have nothing but a little of this and a little of that; when, if we had bred right we might have had horses to have been selling by the ship load to European countries. In contrasting the present horses with the horses of the past, you will notice as the gentleman preceding me did, the special characteristics of the Morgan horses. It is energetic and enduring. They work upon the road day after day, month after month, and the same tireless energy continues. Another quality is the spirit they will show after a day's work. They are ready for a drive and to give you pleasure. But you take the average horse of to-day and there is no bright, pleasant side to him. You do not derive the same pleasure in driving them as you get in driving the Morgan horses.

In regard to the speed element of the Morgan horse those who have investigated it closely as has Gen. Withers, one

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of the most intelligent breeders, although he is now dead says in his 1889 catalogue: "I have examined the records and find a large portion of the race horses have an infusion of Morgan blood. I have selected a Morgan to breed upon my stock for the purpose of producing brood mares for the future." When you look at the records of extreme speed you will find in most every instance a strong infusion of Morgan blood. Maud S., Jay-Eye-See, and a great many others; all of them have a strong element of the Morgan in them. It has one of the greatest qualifications for a horse. A horse should be useful. The most useful horse is the road horse. His capacity as a roadster is well known, which makes him one of the most useful horses. There is no horse I have ever had that so thoroughly combines all the qualifications of the roadster as the Morgan. It has been said they are too small. If the Morgan horse is too small, yet as Mr. Blake has just remarked, there is a quality of sinew which you may not find in any other horse, a conservation of energy, a compactness which enables them to equal and leave behind many of the large horses. They take rapid steps. Their taking rapid short steps is what makes them so enduring, gives them their elaticity, their lineage. You cannot call the Morgan horse a distinct breed. They are merely a family with many out-crosses. The propotency of the breed is so great that after 100 years from the time Justin Morgan was born we have horses of the same peculiar type, with the same pecular characteristics after a great many out crosses. While the origin of the Morgan house was in the east a great many will say, it is too late to raise them, they are all gone, we haven't any. It is a mistake, we have. We have got to-day as well bred Morgans as we have ever had since the time of the grandsons of Justin Morgan. A great many people say, "I have a half blood, a three-quarters blood Morgan and a full blood Morgan," and say it in good faith. I presume the only full blood we ever had was the original Justin Morgan, who raised half bloods, after that were the grandchildren quarter bloood Morgan.

From that time to this we have never had anything

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stroger than a quarter blood Morgan that I know of. Don't ever say you have a half blood Morgan horse, for it is impossible for a man of the present day to have it. We have to-day horses with quarter Morgan blood, some with less. They all are the typical Morgan horse. To those who are interested I would suggest that anywhere in ———county you will find well bred Morgan horses as good as you can find in northern Illinois. W. S. Keith of Chicago, owns Winnebago Chief. The dam of this horse was sired by Green Mountain Boy, not the Green Mountain Boy of Wisconsin, but the son of Hals. Hals Green Mountain Boy was the sire of the dam. That is good breeding, excellent breeding. Then again we have one at Bellevidere. I will give you their breeding so you can compare it with what has been done. The sire of Wild Air was Putnam. (Gives pedigree.)

We have two in Dundee, one Sultan and the other Pearl Morgan, probably the highest bred Morgan in the country. There is now one Morgan Judd. We have really the strongest Morgan element in that section that I think can be found in the United States. There is one at Nashville, Tenn., by the name of Mc———, who is owned by the incorporated company, who purchased Ben Franklin, from Vermont, paying a high price for him. They rate him as high as $10,000. Ben Franklin is a descendant of Ethan Allen. While there was a controversy as to his dam and his sire, yet I think the matter is practically cleared up, with potent evidence to say that he was a direct descendant from Justin Morgan, from Vermont Black Hawk, and also on the dam's side from Red Robin, making him a very high-bred Morgan, a quarter blood. I have a few catalogues of 1889 with the stock that we have on hand. We have some twenty head of stock. I will distribute these to those who desire, but I wish to tell you that a few years ago, perhaps not five years ago, but seven or eight years ago, you would have heard no word in favor of the Morgan. Not one voice was raised in their defense, except now and then a record noting that they were extinct and passed out of existence. But to-day there are enquiries from every

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source. We have mailed 1,500 catalogues in answer to inquiries that have come to us within the last year and a half. This tendency is increasing, and the people are now ready to seize upon the little Morgan horse and we have to make the most of it. They are the best blood we have had and we do not want it to pass out of existence. To those who have Morgan mares — I would advise every man who has a Morgan mare to begin at once to raise something from some good Morgan sire for the purposes of the future. There is no better investment. From a financial standpoint it is bound to succeed. Last year we sold six Morgans, one in Ohio, three in Dakota, one in the northern part of this state, at good prices. Prices good as compared with other horse sales. Now is the time for those who own Morgan blood to go ahead and make money.

Mr. Babbitt — Mr. President, Ladies and Gentlemen: I suppose if Henry Clay, Calhoun, Thomas Benton and other great distinguished men who have figured in American politics, should attend some of our conventions, teacher's conventions to-day, they would not understand the English language. It is so changed. That seems to be one of the ordinary ways of life for old things to pass away. When I was a boy I had considerable experience with the Morgan horses. I have rode Old Gifford. I used to ride horses for fun. I have circulated around with horses quite largely. The farmers around where I lived when a boy, many of them had Morgan horses. One gentlemen by the name of Fred Wise, always had Morgan horses. They were for sale and always brought the largest prices, thirty or forty years ago. A man by the name of Martin, in New Hampshire, had a splendid Morgan horse. An old gentlemen by the name of Wires, who had lived some three miles down the Connecticut, had a magnificent Morgan horse and when he would go into town I have stood back with my jack-knife, to watch the movements of his beautiful horse. There are marked characteristics about these horses, symetry of form, elasticity and a style of movement so pleasant to the rider. They are so graceful one cannot help but admire them. The Morgan horse to my mind is the most beautiful thing

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on the face of the earth excepting a beautiful lady; and I have never seen in my life a gentleman capable of appreciating the Morgan horse, but what he had the highest reverence and the greatest respect for the mother of the people. I tell you, gentlemen, beauty of form, style and grace of an animal goes a great ways. My idea is if we can go back to the Morgan horse we shall all of us enjoy, at least, the sentiment of having an animal that is in sympathy with us.

The Morgan horse takes in the idea of the rider. When I got down from old Gifford there wasn't a boy who felt as proud as I. I was in sympathy with the horse and old Gifford was in sympathy with me. The Morgan horse would show more style at a town meeting and at an old fashioned muster than any other kind of horses. You couldn't find an officer in one of those companies stationed near my home who would mount any other horse if he could avoid it. In the old fashioned training days there wasn't an officer that would ruin his reputation of being a rider and looking well before his privates, unless he was astride a Morgan horse. No other horse had any business near where there was music. The Morgan horse is inspired at once by the music. While you look at him in the stable, you have the conviction that he is rather small, but when you get him out and he hears music and drums he sees at once there is a little fun coming and he will grow at once from a 1,000 pound horse to a two thousand pounder. We can get back that style instead of building the low, heavy thickset kind of horse that looks more like a big elephant than he does like a horse. We can get back that horse by using a little discretion in breeding. A span of chestnuts to which my attention was called by a man named Dunbar, of Beloit, are as fine a span of horses as one could wish to see. Mr. King of Belvidere, has bred these horses and they look so exactly alike that when one is away it is impossible to say which one you have seen before. They have the prepotency and power of transmitting to their offspring the characteristic of themselves. I think if we had confined our attention to beeeding Morgan horses it would have made this state wonderful as far as dollars and cents are concerned. I have

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been thinking whether I better say a word as long as I do not own a Morgan horse. What I may say may further the sales of some of these men who have a corner on these horses. If we would all start to breeding Morgan horses I don't think we would be out of Morgans just yet.

There is a gentleman in the room who has had experience with Morgans. I refer to Mr. Goodrich. I am inclined to think he can give you a good bit of experience. I am inclined to think I shall use a Morgan horse. In the first place, it is a real comfort to sit behind one. They never need the whip. I never knew one who needed to be inspired with a whip. They are inspired, any way, by the driver, if he is a first-class, good, hearty, tip-top kind of a fellow and sees somebody down the street and wants to make an impression, that horse knows it in a minute. Now, gentlemen, let us use a little sense and not run off too much after these big horses. I am satisfied myself that the time will soon come when they will have to be sold for beef prices, and we shall have to eat them as they have to eat them in France. At the present price of beef one could see no particular inducement to induce us to breed the large horses. This Morgan will weigh 1,000 pounds. With judicious crosses we can make them weigh 1,200 pounds. I have a span at home that weigh 2,632 pounds, and I will take that span against any span of large horses that weigh 1,800 pounds each, and I believe they will match them if we could get them moving together. I can walk them about five miles an hour, and the Morgan horse will keep up with any horse that can walk, even if he walks at the rate of five miles a second. He is always there. You can't help loving a Morgan horse any more than the Merino men can help loving a Merino and the Southdown men can help loving a Southdown. As I said here to-day in regard to our pastures, let us remember that the pasture question to us as farmers is the most important one that can possibly come before us for consideration. I said here to-day what is true, that I have not fed but five times to single horses this season. I have given a ration of hay five times. My barns are full.

I understand some parties will say it has been a very fav-

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orable season. That is true, but a horse will dig for his feed. The horse originally came from the Himalaya mountains, whose siees are perpetually covered with snow. The horses there paw for their food. When you feed a Morgan horse he will go right back to the habits of his ancestors and paw, paw, paw. While the cow was born on the south side of the Himalaya mountains, they have been fed so much that they would starve if not looked after. I called a cow through the stream to me. She did not come because she was hungry. It was in the month of June and she had all she wanted as far as ordinary rations was concerned. I would occasionably have a sweet apple or something, and whenever I go into the field I always calculate on getting my pockets picked by some of them. I never chewed tobacco in my life and do not know where I got the idea of putting some in my pocket. When I went into the stable one of my horses picked my pocket and chewed it, and I never go into the stable without having my pockets picked by that animal. You can feed the animals just what you want. The Morgan horse will stick by you whether you are a democrat or republican.

Mr. Wiggins — I have listened with a great deal of pleasure and interest to the remarks of Mr. Babbitt, and the doctor from Illinois and Mr. Blake. There is no question of more importance that can come before us. Is it possible for us as farmers to go to work and raise these horses with as much profit as we can raise a draught horse? It is all well enough to talk about what this man got for them, but the important question is, can we as general farmers, go to work and raise those horses at a profit. That is something I would like to know.

A member — I would like to say a few words upon that point. We do not want too large horses. The farmers do not want 1800 pound horses, he wants a horses to get around quick. The cities want the large horses. What size horses do the cities want for draught horses? They want one that weighs from 1600 to 1800 pounds. What kind of a horse is it the farmer usually gets for a draught horse? 1400 to 1500 pounds is the average weight he wants them. We have a

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Morgan horse to cross upon our horses, while the draught horse has its place and you can raise him for the city demand.

Mr. Wiggins — I would like to know is it for the general farmer, a man that can raise a draught horse and get what he is worth; isn't it better for him, for the general farmer, to raise draught horses rather than trotters?

Mr. Hinman — the question of raising Morgan horses is a question every man should decide for himself. What we have raised to sell we have got good prices for, better than we get for a draught horse, the Percheron. We never had but one thoroughbred Morgan. If you can get them well bred you need not look for buyers, they will come to you.

Mr. Wiggins — That may be the case where a man is educated, as you are, for breeding that kind of horses.

Chairman — I would like to know of Mr. Hinman if there is any way of knowing what you are buying, or if you have to risk it.

Mr. Hinman — In the state of Vermont there is now being corrected a Morgan horse register. Mr. Joseph Bettle, of Middlebury, is now receiving all Morgan horses with sixty-four parts of the original blood, and he is also compiling a book, which he has been at a number of years, that is now almost completed, a book on the Morgan horse. We never have had but one, and that was Lindsay's. This is to be a book of 600 pages. I can not tell the number of horses he has already for registering. If you have a Morgan horse send him the pedigree and he will send you a certificate of register. I would suggest another thing. We ought to have a national organization. A state organization is a nice thing, but we should have a national organization and have it center in the West — right here in this section of the country. We can raise Morgan horses here better than anywhere else. It can be done very easily, and I would suggest that some move be made in that direction.

Mr. Gordon — You think the prepotency of old Justin Morgan after this lapse of time is of sufficient strength to warrant registering the sixty-fourth with the idea of getting thirty-second, and then the thirty-second with the idea

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of getting sixteenths? Do you have evidence that the present so-called Morgans, the sixty-fourths, are going to produce thirty-seconds, and the thirty-seconds sixteenths, and so down to Morgans again? Do you think it is worth while to have registration in that direction?

Mr. Hinman — Before this registration commenced he dip not think he would have to go as low as this. The prepotency of Justin Morgan is so great that less than that the characteristics are very strong. I know horses today of less than 64ths that are decidedly Morgans.

Mr. Gordon — It is pretty dangerous to start on a 64th for a stud.

Mr. Babbitt — I would like to say to Mr. Gordon if he will go back to the history of the Morgan horse he will find the first cross made by Vermont. He is too good a rider and understands horses too well not to know a good horse even though it is but a 64th blood. He has the reputation of being the best horseman in our state.

Mr. Gordon — I have always been fond of horses but they have to be good ones. I have heard of the Morgans often when I was young. It would be a magnificent thing to restore the Morgans to the world if it can be done. I was questioning the propriety of beginning with such a male infusion as 64ths. If the old horse could manifest himself so enormously as you say let us go back to 1-122, if you will.

Mr. Hinman — Mr. Hettel did not realize we had as much Morgan blood as we have, and it was simply that we must start with what we have. I had a horse which was a sixteenth Morgan, his, dam being Abdallah, his sire Ethen Allen. He did not realize we had as much pure blood as we really have. Some horses have come to be as high as sons or grandsons of Justin Morgan. You never can tell about a Morgan horse. You may have much more, possibly much less. Figures won't always tell a man the amount you have. Take Hambeltonian 10. I dislike to say what I ought to say; at the same time, when you look it over closely, as some of you have looked it over, you will find Hambeltonian 10 was a very coarse horse. Abdellah was

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coarse. They were strong in their coarseness. Messenger was a horse full of character and speed.

Mr. Gordon — Hambeltonian 10 was a very prepotent horse. Were there no other very prepotent horses in use in Justin Morgan's days?

Mr. Goodrich — Mr. Chairman: I thought I would not have anything more to say, as I may have said some things I better not have said, but when it comes to talk about a horse it is difficult for me to keep still. There is no creature on the face of the earth, nothing in the whole animal kingdon that I think quite so much of as of my horses. As I have heard the Morgan horse described, I have questioned whether I haven't got a full blood Morgan myself at home. I have a little black horse that weighs 1050 pounds. He is fourteen years old this coming spring. I have owned him the last seven years. I can drive him anywhere and leave him right by a steam engine and not have to hitch him. Never have to bother with tying him. Gentle as he is, let any other horse attempt to pass him on the road and he is on the go. There is not a man in the state of Wisconsin can pass by me. I don't care who he is or where he comes from. I have not met a horse that can go as fast as he can. He can "get there." Let any one try to pass him. He can't. The old horse will pick up his ears and will trot for everything there is in him. I never knew what his blood was but I believe he is a full-blood Morgan.

Chairman — Anything further on this subject. Any business before the——

Mr. Powers — I would like to ask the gentlemen from Illinois what the color of a Morgan horse is at this day.

Mr. Hinman — The color, the prevailing color is the same to-day as it always has been. There are three colors you may have: Black, bay and chestnut. The prevailing color of the Morgan is chestnut. To-day there is a large part of them chestnut. Some of them were bays, originally. Justin Morgan was a bay himself.

Mr. Gordon — Do you mean sorrel or chestnut? I attended state fairs in the east where there were Morgan horses. At one fair there were sixteen of them. They were

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as near alike as two peas. Talk about breed. They were little horses but you had to look right in the air to see the head and tail. I have not seen any since I lived in Wisconsin about thirty-five years.

Mr. Curtiss — I don't know much about horses, any way, but I will say this: if you have any Morgan horses the best thing you can do is to keep on and keep to your pedigree as soon as you get a pedigree. People commenced to raise pedigree, and will sell the pedigree. I will venture to say there is not one in five hundred that is worth $100 if they bought for good individuals instead of pedigrees. I would like some man to tell me what would be a good pedigree for a Clyde horse, Monday and every day. I can see where pedigree would be of use to a man raising trotting horses.

A member — I have been a patient listener to what has been said here. There is a little more that might be added. I was raised in the town where the original Justin Morgan originated. I have always been used to Morgan horses, and what has been said here I can indorse in regard to all the general traits. There has nothing been said but what is true, and there is a little more that can be added. In regard to the spirit of the horse there has none too much been said, still there is another trait not fully presented—that is, they are a family horse; though high spirited, as it is, it is a family horse. You can trust it with your wife and children to drive and drive safely. I have always known the Morgan horse; in fact, have been with them excepting a short time after moving into the state. I remember a compliment my horse at Rio had. I owned one when I commenced farming. It was one I had had since he was one year of age. He was then two and a half years. He was perfectly gentle. At the time I was married that horse was about two and a half years old. I thought a great deal of my wife, the same as the rest of you do, but that horse was perfectly safe for my wife to drive out with and go to town in perfect safety. Some folks thought I was a little careless, but I knew the horse.

Mr. Wiggins — There has something been said here about the coarseness of the Hambeltonian 10. You never

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saw a Norgan horse that was coarse. The greatest fault they have is their undersize. In regard to the Clyde horses, there are Clydes, that have a pedigree, that are valuable, and perhaps a little more valuable than some of the road horses. There is a certain amount of prepotency that you get from the Clyde horse that we do not find in the Norgan horse, or that you don't get in any other class of draught horse. I like to drive a fast horse, but I do not think that for the general farmer it is the right kind of a horse to raise. A farmer is not educated up to raising trotting horses and we do not know the value of them; but take a draught horse of fourteen or fifteen hundred pounds, we know what he is worth and can sell him. I will guarantee the gentleman from Illinois, if he will come up here next week, to show him a horse that weighs 1,800 pounds. I think there is money in raising trotting horses, but not for the general farmer. Nine times out of ten he will be out of pocket if he makes an attempt to raise them, while he can raise the draught horse and make money on him.

Mr. Curtiss — I have nothing to say against the Clyde horse, for I think they are the horse for the farmer to raise. He can get more money from them because he can sell them off at three years old and get a good price for them. The trouble in most of our breeding has been in favoring horses of an inferior quality with a good long pedigree. I do not believe there is a horse living better than the Morgan horse. You make as much money taking care of your Morgan colt as by taking care of your other stuff on the farm. I have a colt on the farm. He is one of the finest colts. We have fed him well. We have fed him six or seven times a day. He does not eat any more than he would if we fed him all at once, and it is better for him. A horse is different from a cow in regard to feeding. You can feed a cow all day, but we want to be regular and systematic about feeding horses.

Mr. Goodrich — I am going to raise the Clydesdale colt for the reason that the market demands them. I have sold them to my neighbors. I have them on my farm for the purposes of which mention has been made here. They are

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better for the heavier work. The Morgan horse is not so large.

A member — The Clydes in Kentucky have Morgan blood in them. They make three miles an hour on a good road. I have these horses and have our lumber wagons with tongues in them for driving three horses abreast, neck and neck. They will do the same amount of work as the larger horses, and will endure hard labor better.

Mr. Curtiss — You can blow all you want to about your little horses.

Answer — I am not blowing, but can prove that they are better for farm work than the large horses. Take the prairie farmers who are raising the big horses year after year, they will acknowledge that the little horse on their farms will accomplish more work than the large Clydesdales. In cultivating the ground, plowing or any farm work they excel in.

Mr. Wiggins — Is it better for the general farmer to raise the Morgan horses and sell them when five years old than to raise the draught horses and sell them when two years old? I want an answer to that question.

Mr. Babbitt — It is best for the farmer to keep his eye out and watch how things go and not follow the general run as sheep do. There has been a great deal of talk here for a number of years about the dairy farming, how it should be done, etc. What is the result. I paid, a few days ago, 15 cents for good butter. You want to keep your eye out. It don't answer for us all to go one way. You soon found that out on the butter deal. I was once in Keene, N. H., and saw Mr Stevens whose last words were "I still live," stating that if the old whig platform went down I will fall with it. That is just the way that you general farmers do, and unless you have respect for your business and stand up fairly for your platform, the platform of the agriculturist, it will go down, and when that goes down every son of a gun goes down with it Just as surely as you have no respect for your profession and stand positively and surely against it, it fails and those depending upon it surely will go down.

Mr. Hinman — The large horse has its place. The large

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horse has his place as a draught horse. But for driving for people who don't want to walk, they are rather slow. The American people are very active and the most of them do not want to crawl along at a draught horse pace, they do not want to go to town and be all the week about it. Mr. Durham has imported more draught horses than any other man in the world. They haven't much of anything else he has imported so many. There are horses for drividg, for roadsters and the other different kinds of work but no one wants to ride after one of the heavy, slow going draught horses; that is if they ever want to get anywhere. If there was coarseness in the ancestors of the Morgan, there is none of it seen in them. When you want to get something very fine you want to know what the father and mother of the Morgan were, that they were all tip top. When you are breeding for any special purpose you want to know what your breeding, then is the time to be particular about ancestery.

Mr. Wiggins — I still claim that it is better for the general farmer to raise draught horses. We know what they are and can sell them at a good price when two years old, and have no trouble in selling them.

A member — The general drift seems to be to raise the Morgan horses for driving and the Percheron horses and Clydes for sale.

A member — There is one question that has just been touched upon, and that is matched teams. If that man had come up in our section of the country, or almost anywhere in the state, I do not think he would have much trouble in finding matched teams.

A member — They may be lacking in style and color. Some people prefer different colors than others. I have seen plenty of horses that resembled each other quite a good deal, yet when you got them together they were not what you would call a matched team; differed in height, color of mane, or some little thing that would mar the looks of the team. And in the case of the gentleman mentioned, as he said, he could not find one that would meet the requirements. There is still something more than color,

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height, form, and so on, to be considered. You have to take the disposition into account, and several other things.

Question — Did that man really want to find a matched team?

A member — In 1860 I bought a mare descended from Green Mountain Boy. I took her home. In the spring of 1860 she foaled a colt. She is yet alive and will be thirty years old the 1st of May. There are very few horses that have the amount of speed she has in her, Three years ago I came across a little Morgan, three years old, from Winona, and I bought her. She weighs 805 pounds and I have traveled more than 1,000 miles to find something to match her, in the last two or three months. I have been offered $100 for her, and am ready to give any man $100 who will match her. I leave her without being hitched. She is getting acquainted, and when I leave her standing and go back to her she will whinney when she sees me coming. I am a great lover of horses.

A member — Let us hear from Mr. Fox.

Mr. Fox — I understood this to be a meeting of Morgan horse breeders, and therefore did not expect to be called upon. My early associations have been among the Morgans, and I have a keen appreciation of their lasting qualities, but I believe if I were a merchant I would keep on my shelves such classes of goods as I knew there would be a demand for and that I knew to be good. The majority of the people when they saw them would buy. It is just the same in dealing in horses. The question is, what kind of horses shall we breed? One man has answered it by asking another question. What kind of horses do the people want? I find that to-day there is a greater demand for first class coach horses and standard trotters than any other class of horses. I think some men can breed one class of horses much better than they can others. I would not want to advise what to breed. I would not be understood as advising my neighbor who might not have a taste for line breeding, to breed trotting horses — that is to go into the business as a means of making a living. I would not ad-

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vise it but where they have the taste for it and a little spare capital, there is no question in my mind but what they could make a success of it, and at the prices good horses command to-day, it would be a paying investment. I am breeding standard trotting horses, and coach horses. In September we sold one bunch of colts for two hundred dollars, average, and for some we got as high as six hundred dollars a piece. There were none of these broken to drive. They were aged from weanlings up to 3-year olds. There were some of them horses I liked first rate, others of them I did not like so well, that made no difference to the men who came there to buy, they liked them and that was enough. They picked out what suited them. In the first place they wanted a good boned animal with good strong material in the young horse, and after finding one that suited, if on looking up the pedigree they found that did not suit them they would reject the horse. They wanted the pedigree to be right and if the pedigree wasn't the kind that indicated strong trotting instincts they did not want the horse. I am a firm believer in the rule of trotting instinct being hereditary. There is the horse Axtel, which is a fine illustration of the fact, that a horse to trot must have a fine nervous temperament or fine mental caliber.

Mr. Wiggins — I would like to know whether you think general farmers, such as we are, would do better to raise colts for trotting horses rather than draught horses.

Mr. Fox — It seems as though I had made myself understood on that point. I distinctly stated, and will now repeat it, I do not approve of the farmer raising them unless he has brood mares well adapted to that; unless he has I do not approve of his raising them. The mare must be kept for nothing else. In my own case, most of my work is done with the geldings or mules. The bulk of my work is heavy work. I depend upon hired help, and can not afford to have them doing half work in order to favor mares in foal, as is sometimes absolutely necessary. I find a greater saving of foals, and more work done in the end by not working the mares in foal.

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Mr. Wiggins—You do not think there would be this trouble in working the draught mares?

Mr. Fox—The draught mares lose more colts. We have since had very little trouble with trotting-bred mares from losing foals during foaling time. There are very heavy discounts made for foals lost while using draught horses.

THURSDAY, February 6, 1890, 2 o'clock, P. M.

President — Ladies and gentlemen, as one or two of our speakers have failed to arrive at the appointed time, we will change the program, and give the present time to Mr. Haaf, the gentleman from Chicago, who is to address us upon Spavins and Horns. I take pleasure in introducing Mr. Haaf, of Illinois.

Mr. Haaf — Mr. President and Gentlemen: In Illinois we have several societies, and I was unexpectedly called to be there on Tuesday, and spend the day. Then went back again to Centralia and only reached here at 2:30 yesterday. Of course I found my place had been filled, and consequently I had to take the time of the first speaker I could get. I apologize for not being here at the appointed time. A professor said to a student at a college when he appeared considerably behind time, "Where have you been?" The student replied, "Been getting married." "All right, excuse you this time but don't let it occur again."

If you who are interested in the hock of the horse, will turn to pages 18 and 20, of Haaff's free book known as "Horses and Spavins," you will find cuts of the very speci-

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mens I have here. I am going to talk to you in a mild, old-fashioned way, just as one farmer talks to another about his horses. I am a natural-born horseman, just as lots of you here are. I need not spend but a minute talking about the horse. He is an animal with four legs and he walks on the end of his toe nails. You understand that. You understand that the hock in the horse is the same as the heel in the man. You understand that the astraglus bone which I hold in my hand. I have numbered them, you see; the astraglus is numbered 3, and the calcanus is numbered 2; you understand what I mean by the heel. This long bone here (1) being connected by the astraglus or pulley with the scaphoid bone (5); this long bone (1) we commonly call the shin bone of the horse. This (9) is the metataesus or foot bone, that is this part of the foot here (indicating), so that the horse is borne up and walks on the end of his toe nails. This tibia is the shin bone, so that the horse's shin bone instead of being where the man's shin bone is seems to be here where the thigh bone is. One horse power is 33,000 pounds. In order to get at it they took a big draught horse in England and estimated the number of pounds of power. A horse will draw on an ordinary smooth road a load of four tons weight. He will move 8,000 pounds when he moves it, and he does the drawing with his hind legs. He does all that pulling with one hind leg when he raises the other leg. All the pulling, all the weight comes upon this small cuniform (7), and the other small bones. You can take this little bone right out. These little bones right here have to bear tremendous pressure.

We have in this country 20,000,000 of horses, more or less, very likely more rather than less. Not less than one-sixth of them are afflicted by spavins. I read a statement that every fourth horse is spavined in Chicago. Of course it makes a little difference whether you are looking for them on Wabash avenue or side streets; not much, though. I have no doubt there are 2,000,000 of horses in this country with bone spavins. I say without boasting, I believe I can cure 1,500,000 of them. I think I can. You remember, you who

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were here three years ago, I came up here a perfect stranger, I was brought up here by your secretary, Newton. I tell you, I meet a great many men, and your secretary is a broad-gauged man. He said, I will give you $50 out of my own pocket if you will come up and talk to the people about horses. You have another broad-gauged man in Madison. You have a very broad-gauged man in Prof. Henry. I wish the state of Illinois had such men.

It occurred to me in my horse investigation, these bones are held together, how? By ligaments. You know what a ligament is. It is like the white tendon cord you get out of the animal, anywhere. It is not elastic; it is put there to stay. It takes all the wrench and all the strain of that movement when a horse takes a step. If he makes a misstep it causes a bruise, for the membrane covering the bone is tender.

Veterinary science declares that the spavin is attached to the bone; this is not true. They are attached to the hide. There is no sign of ossification. Here are two spavins I took away from horses which have the hide and hair on. They were two inches across. You will find on examination they are all of them concave, that is, dished like my hand (illustrating). You will find upon examination that they rest upon the dishing edge of the concave surface and that the other or outer portion is attached to the hide and you cannot tell where hide begins and spavin ends. They are part and parcel of each other. In my investigation I found it a fact that the spavin is firmly attached to the hide. How can it also be attached to the bone? Will somebody tell me? It is on the bone you say? I beg your pardon, what holds these bones together? These legaments. How many are there? There is a lot of them, sixteen or eighteen. Here let me show you this metatarsus is bound by a ligament to the scaphoid. The scaphoid is bound by a ligament to the large cuneiform and the cuneiform to the metatarsus. These larger ligaments from the cuneiform are the cords, which extend from the tibia which I am moving, and so to the metatarsus. The bones and ligaments must be in a

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strong, healthy condition. They must be capable of holding the horse up. We never knew the old American horse to be spavined. You don't have any spavins in the bronchos, all because they have been fed for it. They have been watered and fed and have been exercised and raised so as to build a hock to stand. We are getting more and more spavined horses. Some gentleman said it was not safe to breed from a spavined horse. I am able to testify that it is not safe to breed from a spavined or ringboned horse.

Let us grant, for the sake of the argument, that the spavin is attached to the bone and hide. Examine these and let us see (shows specimens). If any one cares to see them they can be passed right around. I tell you this is not ossification. There is not one characteristic of that about it. (You can take them.) If this is so and the spavin is attached to the hide, how, in the name of common sense, is the spavin attached to the hide and also attached to the bones when the bones are covered with ligaments? The books will tell you bone spavin is incurable, bone spavin is not removable. I say it is curable and removable; that is where I fight the profession. Now, I prove it. How? I go to work and take off the bone spavin on this horse, shaving the hair at the top part, then use my compound. I put the material on here, which acts upon the spavin like a charm, loosens it, and it can easily be removed. There is no growth to the spavin. Not a bit. To grow there must be life. It is a deposit. It is a big deposit that drips out or drains from between these ligaments. That is my theory and that is my practice, and there is the proof of it (showing specimen) that tells the story in a very few words. Of course we may spend an hour talking about removing the spavin. Here is the hide and hair (indicating), here is the bone and here is the ligament; see, here you have reached the bone. How did you expect to grow a deposit upon the bone with a quarter of an inch of substance lying between it and the injured substance?

If any one can suggest anything about this business I will be glad to hear it. If any man can see or show how it

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is possible for a spavin to be attached to the hide and also to the bones I would like to hear from him. He is a great deal smarter than I am if he can find that to be the case. Some one said this morning he had a horse so and so, and he said my horse is lame. I see no spavin externally, but he is lame, what was the condition of his horse? It might have been one of several things. A sprung hock. That is a case in which the cords and ligaments which hold the bones together, become sprung so that the ossification fills in between the small bones. By referring to page twenty-two of Haaff's Horses and Spavins, you will notice that Mr. Shedden, of Eureka, Kas., writes me that he had two spavins. In this case there were two large, well-developed spavins, side by side, on the same leg, only a quarter of an inch apart, and the leakage of the joint continued until the exostosis had filled in between both of the bone spavins with false bone. I would like to show this to you, my friends, if you will take this little book. Take one with you, take them to your neighbors if you will. Examine and see if my theory of the spavin is right. If you are interested about this I will be in room twenty-one, and will be glad to discuss the matter with you there. I would like to say another word before I close. I have had talks with a good many farmers and you seem to have an idea it is a mistake to take the horn of the calf. I wish I could rid you of that idea. 15,000,000 of cattle have had their horns taken off, and I think it will be done universally. Thanking you for your courtesy, will say I shall be pleased to meet any of you in room twenty-one and answer any questions you may desire to ask.

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WHAT IS A BONE SPAVIN?

By common acceptation it is a diseased condition of the hock joint, or, better still, of the bones of that joint. It usually shows itself by a lump which is beneath the hide and lies on the inside of the leg and just above the metatarsus. It is incurable and immovable, and as a rule destroys the commercial value of the animal so that it is a common thing to hear it said, "A spavined horse is not worth a dollar." It is called a spavin because the old-time hunting hawk or sparrow hawk lifts itself much as the horse jerks up its diseased leg, and I suppose that the comparison readily suggested itself to our English brethren, because of all horses in the world affected by bone spavin, the English hunter, perhaps, suffers most frequently. As the hawk, without apparent effort, springs a foot or two into the air and alights again at once on the same spot it had vacated, so the ridden horse that is spavined jerks up the hind leg and drops it instantaneously, and often to the amusement of the looker-on, who sometimes said, "Why, he lifts like a spavin" (meaning the bird), and hence the term, "He is spavined." The term is a good one, is here to stay, and unfortunately is too likely to become more, and not less, common.

"I have a very fine horse but he has one of those little bones." How common that remark. I verily believe that every sixth horse in these United States is spavined; I believe there are more than two millions of bone spavins in these United States alone. I except only one class of horses from the universal ailment. The Spanish horses of Texas and Mexico. So far as I can learn there are no bone spavins among the bronchos. I do not pause here to consider why. Let the savants who delight to delve in the lore of horseology hunt up the record at their leisure.

It is likewise true that certain breeds or classes of horses are more susceptible than others to this disease, and it is a strange fact that a local disease coming as spavin most always does, by an accident, a slip or a wrench of the

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joint shall, by the immutable law of "like begets like," finally develop into a race characteristic, so that a horse that is spavined is to be always shunned as a breeder, whether male or female.

But what is the so-called bone spavin? Let us examine a case and see. Cut open the parts and we find a hard, concave substance firmly attached to the hide on its outer part and resting on its inside part on what? The books and the doctors tell us on the bones of the hock. This I deny, and I affirm that the spavin being attached to the hide must of necessity rest its under face or surface on the ligaments that bind the hock bones together.

Let us consider this proposition a moment. If this spavin rested on and covered the bones of the hock joint, how could the horse move his leg at all? Would not the leg be solidly keyed, and so be stiff? Most certainly this would be so. But look at my position, that the spavin rests its under surface on the ligaments; then what follows? The bones can move and the horse can move his leg, but it will be sore and be lame, and that is the fact.

You start a fresh horse that is spavined. Notice how very lame he is. He perhaps goes on three legs for a few steps. It hurts awfully at first. Soon he is less lame, and by and by, when warmed up, he is apparently not lame at all. Why is this? This is my explanation: The horse has rested over night and the spavin has again attached its underside to the out ligaments. You now move him and at once you begin to separate the spavin from those ligaments. You tear their connection apart. Kill the horse at this stage of the examination and cut out the spavin. The under or concave surface is found discolored. Examine the ligament, the same thing is true. Take a living horse at this stage and move him, what happens? The synovial fluid and the serum, juices present at the point of contact, flow over the wounded surface, and the horse finds relief, more or less, according to the hardness of the spavin and the action of its edges, and hence it is that a small bone spavin may give so much pain to the horse in moving, because although small, it yet may have bred sharp edges.

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The spavin is small, but being small, if it has any sharp point, that acts like a knife and pain follows. If the spavin is large it covers so much surface that in formation its sharp edges have been worn off or toned down, and there is less motion in moving and less pain. What is the conclusion at this point? It is this. It is cruel to use a spavined horse. It must aggravate the disease; it ought not to be done.

But let us examine the spavin again. It is concave. It rests on the ligaments only on its outer edges. On most bone spavins there is a sharp cutting edge all around its perifery. This is all the time in a more or less formative condition and it ceases to increase only when the bones underneath stop leaking or seeping from a diseased condition. If we examine the ligaments and seek for a reason why the bone spavin, nine times out of ten, is found at the same point, it appears to be because there is a channel between the large and small cuneiform bones that directs to this point and again because the ligaments at this point furnish an easier means of escape for the diseased fluid escaping from the bruisd bones. It may be asked, why is the spavin always round, and I reply because if you give a fluid that is solidifying a rotary motion while confined, it must go round and round and it will crystalize as in the case of a saucer of boiled syrup that is stirred as it cools, and leave the outer edge the highest, and besides at the point of formation there is loose hide while it is drawn more tightly below. Let us now examine the make-up of the spavin. We naturally call it an ostization or more properly an exostization, that is, a bone outside a bone. Let us cut it, pare it with a knife. No grit appears. It is not an ossification at all. It seems to be only fibrous tissue. Perhaps it is only a conglomerate. It seems certain that coming as it must from bruised bones it ought to show signs of ossifiction.

As a matter of fact it is no such thing. It seems to be more of a leathery character. Possibly having seeped through or beneath the ligaments in exurding it has been strained and deprived of its osseous character. Possibly if we should kill the horse at this stage of the game, there

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might be found more or less of osseous deposit between the cuneiform bones. The subject is well worth careful consideration. Ever since bone spavins were known they were declared to be "incurable." They "cannot be taken off." It is a "ridiculous proposition." Nobody but a quack, a mountebank, a "whole hippodrome by himself," a "verdant dehorner," would ever insult an intelligent audience with any such theory. Bone spavins; not bone. Bone spavins only fibrous tissue; not an ossification at all, and not attached to the bones of the leg; and instead of being immovable and non-curable," now declared to be "movable and curable." Ye Gods and little fishes; the proposition is inadmissible; not debatable and monstrous." Have not the books from the dark ages down all declared to the contrary. That is just the trouble. The dark ages are not the ages to draw on for light. We settle somethings ourselves and for ourselves, regardless of any degree of any college or any decree of any professor thereof. We spit on your sheep skin and roll up our sleeves and say, examine a bone spavin for yourself. It is not bone at all. It is not attached to the bone of the leg and if it were the horse could not move the bones, but resting on the ligaments we can remove the lump and give the horse relief.

To do this is the province of "Haaff's Spavin Cure," and so far as known it is the only thing offered, or ever offered, that will surely remove "bone spavin." There is not a bone spavin in America that can not be removed with perfect safety to the horse by its use. What do Kendall's spavin cure and Gumbault's balsam and all other panaceas for this disease do? They do not break the hide; they do not and can not, therefore, remove the lump. They claim to dissolve the "bone," as they wrongfully call it. They claim to blister it out. In all my inquiries for years I have found one man only who declares he cured a case in that way permanently and that at its very beginning.

Let us consider this disease for a moment. It is a disease of the bone membrane; a sudden leap, twist, jump, or a severe fall, or a slip, as on a stone, or stepping into a hole, these are all fertile causes of bone spavin. The fevered

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bone weeps and the fevered flow of serum, or fluid exudation finds its way to the cavity beneath the cuneiform bones and you have a slushed hock. Presently exudation begins; the drip is confronted with the hide; by motion of the horse's leg it is churned into a hardened state; it assumes a circular form; it accumulates by accretion. It can not be said that a bone spavin grows; it does not grow; there is no germ of growth present. It is *depositum;* it is simply a deposit and adheres to the hide. Now, please think for a moment of the utter impossibility of reaching these injured bones through the tough hide, and then through the ligaments themselves, and then away inside those bones—may be two inches to reach the seat of the disease. And more than all, here on the outside is not only the hide, but attached to its under surface is an awful spavin, may be 1¼ inches thick and 3 or even 4 inches across. Am I not in the right when I say the first thing to do is to remove the hide and the attached spavin? This I do to perfection. No knife can do it. I have heard men talk about cleaving off a bone spavin with a mallet and a chisel. These tools should be used on the heads of the men who propose such a course. There is no sense in such a proposition, and a man who uses a chisel on a spavin, driving its sharp edge against the soft ligaments, deserves to be sent to jail or a lunatic asylum. Let the veterinary fraternity accept my position, and now having removed the spavin so that the diseased parts are more readily accessible, let a well-defined course of treatment be given for the diseased bones underneath, when needed.

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PASTURES.

By J. B. Harsh, Creston, Iowa.

Grass is the foundation of agriculture. It is the most valuable production of the soil. Unlike other crops, it enriches instead of impoverishing the field. Cotton, by almost common consent, wore the crown in this country until Hinton Rowan Helper, in his "Impending Crisis," proved by statistics that that part of grass annually cured as hay was of greater value in dollars. Later an effort has been made to prove that corn is king, but an examination and comparison betwen corn and grass will show the latter makes annually not only more animal bulk than corn but more than all the grains combined. How much grain was grown the past season? Who can tell? An approximate estimate may be made of that portion cured as hay, but what of that consumed as pasturage? Grass is the only crop that can not be measured. The statistician does not give it a column in his return of crops for the reason that its bulk is too large to be computed by the rules in his arithmetic. It grows everywhere. It is found along the highways, in the meadows and even crowds its way into fields untouched for a season by the plowshare. There is no soil so poor that it will not grow thereon, and none so rich that it may not profitably be planted to grass for use as pasturage. Without a knowledge of the nature, habits and uses of the different grasses, it is impossible for anyone to produce a good, permanent pasture. The study of the grasses by the masses is in its infancy. The average farmer does not recognize and cannot give even the common name of a dozen varieties at sight. I had last summer in the bank where I work, specimens of thirty-three varieties grown in the locality, and there was not a farmer, business or professional man, of the scores that saw the collection every day that could give either the common or botanical name of one-third the number of specimens. Of the thousands who visited the blue grass palace at Creston, this fall, there was not a score

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that could name one-half the grasses which were grown in the region and on exhibition there. Nor were those whose business it is to make a study of the science of agriculture found much better informed on this subject. In several instances, while the collection named was being made, specimens were sent for naming, to professors in agricultural colleges, whose answers indicated very recent encyclopedial research. Attention is called to this to show how little man has done and is doing toward the improvement of pastures. As before stated, no improvement can be made without a knowledge of the different varieties of the grass family. Finding the pastures at hand good enough, he has given very little thought or labor to making them better. He has been forced by circumstances to grade up his live stock, improve his corn, seek new and better varieties of wheat, oats and potatoes, but has expended little labor and less thought on the subject of better pastures.

The farmer of the near future, it is believed, will look back to our day and view with derision our comparatively bare pastures and barer boned animals. He will wonder that we spent so much of the year preparing the products of our fields for winter use, meanwhile neglecting to have our pastures in condition to present our animals to the first cold storm of winter with a lining of fat within and a covering of thick flesh without. Animals furnished with suitable pastures in summer are well fortified against winter storms. The meadows may be pastured, but the primary object of grass in the meadow is, or should be, a resting crop for the soil, the hay being incidental only. I say the meadow "may be pastured" because this should only be done occasionally and not followed as a rule. The farmer who understands the nature of the grass (for the purpose of this paper clover is considered as grass), with which his meadow is seeded, may, in the exercise of his best judgment allow his live-stock to crop the grass therefrom at certain seasons without damage, but the chances are that he will make a loss as often as a profit by the transaction. Meadows as such are very often damaged by being used as pastures. The value of permanent pastures is forcing them more and

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more into recognition as the years go by. Fortunate is Iowa in this respect. By proper selection of seed, preparation and treatment of the soil, good permanent pastures may be had in any section of the commonwealth. In the southwestern portion of the state, known as the "blue grass region," permanent pastures are common. Soil and climate there unite to form permanent pastures of unsurpassed excellence. The pastures of southwest Iowa are permanent in more than the sense ordinarily understood by the term as applied to ground used only for pasturage purposes year after year. Pastures in the blue grass region furnish grass the year round. Horses and cattle may there be profitably grown on pasturage alone. By this it is not meant, of course, they live during any winter on a pasture from which the grass had been cropped close in summer, but during an ordinary winter, on one prepared for the purpose by carefully excluding all stock therefrom, from May until November. Winter pastures should be seeded with blue grass, and have therein abundance of water and shelter. The best results in my experience have been obtained where brush was plentiful and board sheds were relied upon to protect the stock from rain and snow, and they had access to good running water every day. Pastures, other than the one used expressly as the winter grazing lot, should be seeded with grasses adapted to the different soils found on every tract. There is no field of even twenty acres in extent that has not on it half a dozen or more soils that require seed of a different variety. Besides, the live stock is greatly benefited by such a pasture to graze upon, than upon one seeded to but one variety of grass.

By having a succession of pastures thus prepared into which horses and cattle may be turned at different seasons of the year, I repeat that it is possible to profitably keep them the year round on pasturage. But if not the whole year, then, at least the feeding season may be cut down to at least 30 days for horses, and say 40 to 60 days for cattle in ordinary winters. The cattle under such arrangement should run with the horses, as the latter readily paw the snow off the grass, and the cattle follow after and feed upon it. In

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this climate, which is comparatively a dry one during the fall of the year, all kinds of late grown grass are very nutritious. This comparative dryness of our climate is one of the main factors in producing our unexcelled blue grass pastures. Localities in other states have as luxuriant growth of grass, but the frequent rains and "muggy" weather wash the "good" out of the grass. A steer will fatten on a good blue grass pasture almost as quick, and the flesh will be nearly, if not quite, equal to that made by feeding corn. There is nothing that will make bone and muscle in the horse like Iowa blue grass cropped by the animal from the land where it grows. Cattle grow as well as fatten upon it. The other day (remember this is December), I weighed a lot of my yearling grade Short-horn steers. There were sixteen in the bunch and their average age would not exceed sixteen months. They were not selected for the purpose but were all that I had of that age. The average for each steer was 881 pounds. They had had no other feed than pasturage, except a little oats and hay for a few weeks after weaning one of them, were more than half Short-horn, being the product of common cows mated with a plain-bred Short-horn bull. A few days after I weighed a two-year-old pure-bred Galloway heifer, similarly treated as to keep. She weighed 1,200 pounds.

They had been, during the early spring and summer, on pastures that had for foundation the best of the wild native grasses and the usual amount of blue grass which had "come in of itself." The tract had been seeded, as hereinbefore indicated, by scattering the seed, for most part, on wild prairie sod (while stock was pasturing thereon), with red, white and alsike clover, timothy, orchard grass, tall meadow oat grass and English blue grass. On September 2nd last they were turned in a common native or Kentucky blue grass pasture, that had nothing on it since May 30th last. Their flesh was hard and firm, and a local butcher who saw them said he would as soon have them for his block as though corn-fed.

The pasture I refer to as being the one stock was turned into September 2d had at that date a heavy growth of grass

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in its fall form. I turned in about 150 head of all sizes and ages of cattle and horses. The pasture contains 160 acres, through which a creek of excellent water runs. There is still a "coat of grass" three or four inches thick on the tract, and I intend to leave the stock in there until January, when I will remove them to another pasture, there being no shelter of any kind in the one referred to. Of course if a hard storm comes before January, I will remove them sooner, but I think none will come that I can not overcome with a load or two of corn. The stock at this time are sleek and fat enough for the butcher's block. Last winter my colts and brood mares run in a blue grass winter pasture, coming out in good flesh and fine condition in the spring. There was considerable brush in the lot, and though rude sheds were provided, they scarcely ever availed themselves of such shelter. At the time of the organization of the Blue Grass league in Creston, in March last, I had one of the mares brought up to exhibit, for the purpose of showing the practical result of a winter blue grass pasture. She had been stabled and carefully curried and brushed for a week. The visitors who saw her, one and all, declared her to be in splendid condition and her coat as shining as one could desire. One remarked, "She is fat enough for beef." "But," you say, "last winter was a mild one; it will not do to arrange with reference to such exceptional winters. True enough; yet my observation and experience led me to make the trial, confident of results. I had good shelter, hay and grain on the place in reserve for contingencies, and would have every winter, for blizzards and northwesters are liable to come when stock should be housed. I want, however, to impress the idea hinted at before, that properly conditioned summer and fall pastures fit stock to withstand almost any kind of winter. There is something about blue grass pastures that gives to horses bone and muscle and imparts suppleness and qualities of superior endurance, which is lacking in other pasturage or, indeed, in any food nations with which I am acquainted. A common mistake is to overstock the pasture. This means death to the pasture and financial loss to the stock owner. I have often had

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men remark, when walking over my pastures with me, "Why, one could cut a good swath here." I am often asked to receive my neighbors' stock into pastures which I consider already overstocked. Mention has been made of amount of food on one of my 160-acre winter pastures. I want now to tell of the producing capacity of a 100-acre tract I had some years back. It produced sufficient pasturage and hay to keep seventy-five head of cattle the year round for two years, with the exception of sixteen tons of hay. I think I could easily have cut down the rations so as to have saved buying the sixteen tons of hay. I fed a part of the cattle grain during the period named. The herd was never off the place and in good flesh during the two years. Part (about one-third) of the place was kept for meadow, being used very sparingly for pasture at certain seasons of the year, and the remainder (two-thirds) was in pasture. The cattle were a mixed lot, cows, heifers, steers and calves. That 100-acre tract was brought to that condition by persistent pasturing thereon of stock, sowing of grass seed and top dressing with manure. The land was hardly an average piece of land, but after four years' treatment as above it is now one of the most productive tracts in the state. One need not hesitate to top dress a pasture with manure, especially if well rotted, during any season of the year. "But," says one, "why attempt in a country famous for its cornfields to make so much of the pastures?" My answer is, because it is nature's way; such course is kindness to the animals, the soil and the man who cares for them. The difference in the life of that horse or cow which roams the pasture at will, cropping the herbage from the field in its natural, juicy state, and the one tied in the stall, compelled to digest dry, woody substances called hay or corn fodder seven or eight months in the year, is very great. One is, healthy, well conditioned, free from disease and enjoys its brief existence. Can as much be said of the other? The pasturage system as against the "all plowed land" system of farming insures the building up of the soil every year. Plowed land means "washed" land. Wherever the sod is broken a means is furnished by which the best of the

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F. W. HARDING, Breeder and Owner, Waukesha, Wis.

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soil goes into the rivulets, thence into creeks, from there into the rivers and thence on to the sea. The saving of manual labor is great. It saves much plowing of ground, harvesting of small grain, corn husking and pitching of hay. Were I the owner of a 100 or 1,000-acre farm, two-thirds of it would always be kept in grass. My plea to-day is for more and better pastures and less plowing on our Iowa farms.

GRASSES AND PASTURAGE.

By Charles E. Bessey, Ph. D.

In order to give to this paper that breadth which may make it most useful to the farmers of Wisconsin, I will take the liberty of enlarging the meaning of the first word in the topic assigned me by the committee. Properly a grass is such a thing as Timothy, Blue Grass, Millet, etc., in which the stem is jointed and usually hollow, with long narrow leaves growing from the joints. As a matter of fact, the word grass is very commonly applied to almost any forage plant by farmers; thus they very generally apply the term to clover, alfalfa, and any other crop used for pasturage and hay. Now it is in the latter sense that I shall use the word in the topic of this paper.

For convenience I will divide my paper into the following heads, viz.:

I. The Grasses, properly so called.
   1. The wild grasses.
   2. The cultivated, or "tame" grasses.

II. The Clovers.

It will contribute to clearness, if, in our discussion, we use the words "grass" and "clover," as referring to distinct kinds of plants.

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I. THE GRASSES (properly so called).

1. THE WILD GRASSES.

Every state in the Union has a great number of wild grasses, that is, kinds of grasses which have been growing wild for ages perhaps. They occur upon the prairies, in the woodlands, along the stream, by the sides of lakes and ponds, and even upon the dry, rocky hills and the bare and almost barren sands. Out of the one hundred and fifty species or thereabouts, growing within the boundaries of Wisconsin, fully two thirds are of value for either hay or pasture, and were these to be swept out of existence, many an animal would suffer for lack of food. In a popular paper, such as this, it is unnecessary to enumerate all the wild grasses. A notice of a few of the more important ones will suffice.

Panic Grasses.—These belong to the botanical genus, *panicum*, which includes many species. They grow upon all kinds of lands and range in size from tiny plants a few inches in height, to great, tall growing species reaching a height of fully six feet. Many of the species are wiry and hard; many possess but little nutriment, but all are palatable to stock and are eaten with other wild grasses. One of the most valuable is called "switch grass" (*panicum virgatum*), a tall growing species found upon moist lands. In some parts of the west, beyond the Missouri river, it is used for hay and is considered to be quite valuable.

Blue Stem Grasses.—There are several species of Blue Stems, all belonging to the genus *Andropogon*. They are all large grasses and while the stems are large and hard, they possess a good deal of nutriment and upon the plains are used for both hay and pastorage. Several species occur in Wisconsin. Among these the most important are Big Blue Stem (*Andropogon provincialis*), which reaches a height of five to six feet, Little Blue Stem (*Andropogon scoparius*), and Bushy Blue Stem (*Andropogon nutans*). The

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latter has often been called Wild Sorghum, to which indeed all the Blue Stems are closely related.

Muhlenburg Grasses.— In Iowa and Nebraska some of the species of Muhlenbergia have been found to be most valuable for hay and pasturage. One species in particular (*Muhlenbergia glomerata*), is much liked by the horse dealers, who takes pains to get as good a supply of hay made of it as possible. They call it "fine slough grass," but the name I have used is the preferable one, as it perpetuates the memory of old Dr. Muhlenberg, of Pennsylvania, an early student of North American grasses. Several species of the Muhlenberg grasses, including the one mentioned above, occur in Wisconsin. They generally prefer moist and in some cases shady situations. All are nutritious, and in the case of *M. glomerata*, the nutrition value is higher than in any other common grass.

Wild Rye Grasses.—Several species of the genus *Elymus* bear the common and appropriate name of Wild Rye, They grow to a considerable height and produce a large amount of forage, They are nutritious and make a palatable hay, The only serious objection to them is that some seasons they are quite badly effected with Ergot, which is likely to produce injury to stock, as has actually occurred in some places in the west on several occasions,

Many more wild grasses might be mentioned which are of interest to the Wisconsin farmer, but the foregoing must suffice to show that these uncultivated species are of a good deal more value to him than he commonly thinks. I venture to say that every farmer would be greatly profited if he could be induced to give some attention to the wild grasses upon his farm, for from many of these his cattle obtain a large share of their food. Especially is this the case with stock running at large in open woodlands, where but a few of the cultivated grasses are found.

2. THE CULTIVATED OR "TAME" GRASSES.

By these we mean the grasses which are grown by us purposely, especially those for which we prepare the ground and of which we purposely sow the seeds. These grasses

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do not differ in any essential way from wild ones, and perhaps all may now be found wild in some parts of the world. Strictly speaking, it is not quite proper to call any plant "tame." We do not tame our grasses as we tame horses, cattle, birds, etc. We simply give to these grasses a better culture, and hence we may properly call them cultivated, as distinguished from wild species.

Timothy.— This well-known grass is one of the best forage plants in use. It is known botanically as *Phleum pratense*, and is now known to be a native of North America, from whence it has been introduced to many parts of the world. I need not discuss the history of its introduction into cultivation. Suffice it to say that the name "Timothy" perpetuates the memory of the shrewd New England farmer, Timothy Herd, who first brought it into notice.

It prefers moist soil, and when once fully established will remain in a thrifty condition for many years. I know of a large meadow of Timothy on the rich, moist soil of the Platte valley in Nebraska, which has maintained itself in good condition for fully ten years, in spite of close pasturing and annual mowing.

Upon proper soil it grows to the height of from four to five feet. On rich soils in northern Ohio I have seen it occasionally as tall as an ordinary man. On dryer soils, or those less rich, it is always shorter and of less value. The rich, moist soils of many parts of Wisconsin are admirably adapted to this grass.

While Timothy is by no means one of the most nutritious grasses, yet it has shown itself to be one of the best general-purpose grasses ever introduced, and for this reason it has maintained its place upon the farm. No other grass is as generally satisfactory as Timothy.

Kentucky Blue Grass.— The only grass which can rightly be called by this name is the one known to botanists by the name of *Poa pratensis.* Moreover, this grass ought always be called by this name only. The other names, such as June grass, wire grass, Spear Grass, etc., ought to be abandoned, and that given above used alone.

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On the rich, moist soils of parts of Kentucky, this grass grows to perfection, and gives to the state a reputation which is world-wide. As a pasture grass it is unexcelled. It continues to send up its nutritious blades when severely cropped by cattle, and does not succumb under such treatment as readily as most other grasses. In fact, it is so persistent that it often troubles the gardener and small farmer who wishes to get rid of it. This quality is, of course, a most excellent one for a pasture grass, much as it may trouble us occasionally in our gardens.

If we examine the underground parts of this grass we find the reason for its persistence. From every plant a number of underground creeping stems are sent out, and these possess a great deal of vitality, enabling the plant to withstand very hard usage, while at the same time they are the efficient means by which it is rapidly propagated. Everyone has noticed that Kentucky Blue Grass spreads with great rapidity, especially upon plowed lands; this is almost entirely due to the numerous underground stems just mentioned.

I think we have yet to learn in the northern states the full value of this grass. In a few places only is its high value as a pasture grass acknowledged, but as the years go on, there will be an increasing number of stock growers who will grow Kentucky Blue Grass. Let every Wisconsin farmer make an effort to increase the number of acres of Blue Grass sod upon his farm, and thus add to the value of his pasturage.

Red Top.— For wet meadows Red Top is a valuable grass in the northern states. Its botanical name is *Agrostis vulgaris*, and its common name is given it on account of the reddish color of its bushy head or top. As a hay grass it ranks near to Timothy, and like the latter grass, it is rather shy of heavy or close pasturage. As feed for horses, it is considered very good. It merits a wide use among the farmers of Wisconsin.

Orchard Grass (*Dactylis glomerata*).— This coarse grass had a good deal of value for hay on several accounts. It is, in the first place, able to grow in more or less shade, hence its

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common name. It may be profitably sown in open woodlands, orchards and about buildings. In these situations it grows well and yields good hay in considerable quantities. Moreover, it is one of the earliest of hay grasses to shoot up to a good height, thus enabling the farmer to replenish his hay mows early in the season. For early pasturage, Orchard grass has some value, on account of its rapid growth, but for this purpose it is by no means as valuable as Kentucky Blue Grass, excepting in those situations where the latter will not grow well.

English Blue Grass.— This grass, which also bears the name of Randall Grass in some localities, is botanically the *Festuca elatior*. It has long been grown in Europe, but is comparatively little used upon American farms. That it is valuable for both pasture and hay has been shown by repeated trials in various parts of this country, while its long use abroad must indicate the same thing to the thinking farmer. It is early in its growth and this furnishes a supply of food in that part of the season when the hay has run low and the pastures are still scant. It may well claim a place upon the farm.

Millett or *Hungarian Grass.*— All the ordinary kinds of Millet, however much they differ in appearance, are but varieties of the old Hungarian grass, known to the botanists under the name of *Setaria italica*. It is one of the most useful annual grasses and richly deserves its wide popularity. How long it has been grown, we cannot now determine, but it is certain that it has been for many centuries, and possibly for thousands of years.

When grown upon rich soil, it produces a luxuriant crop of nutritious hay, but upon poor soils or under bad treatment, it soon deteriorates, producing small bristly heads and short wiry stems.

On the great plains it is very largely grown and its hay is held in high esteem. In Wisconsin it is by no means as necessary a crop, but I am safe in saying that many a farmer would bring his cattle through the winter in better condition, were he to give more attention to the annual growth of a crop of Millet.

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II. THE CLOVERS.

In the northern states the clovers are generally esteemed for forage uses on account of their high nutritiousness. Weight for weight, clover hay is from two to three times as nutritious as that made from Timothy, Red Top, Orchard grass, etc. Were it not that it is much more difficult to keep clover hay in a perfect condition, either from attacks of moulds (mildew) of various kinds, or from the mechanical breaking up of the leaves whereby the best parts are lost, there could be no question as to the place which ought to be assigned to clover for the production of hay. As it is, the farmer finds too often that the center of his mow or stack of closer hay is badly mildewed, and he dislikes to feed the musty stuff to his horses and cattle. This will sometimes happen in spite of all his care. On this account the high food value of clover hay is considerably lowered in the estimation of hay feeders.

With all the drawbacks, however, clover ought to be grown upon every farm. Its known good effect upon heavy soils is alone sufficient to command the serious attention of every man who wishes to increase the fertility of his land. When we add to this the ease with which we may obtain a heavy crop of nutritious food, we are bound to say that clover must occupy a high place upon every farm. Perhaps we must learn to be more careful in the making of our hay, and possibly we may learn that the best place to put our heavy crop of clover is in the silo. Surely we ought to be able to handle, without serious loss, this valuable crop.

Red Clover (*Trifolium pratense*).—All the red clovers belong to this species, but under cultivation several agricultural varieties have been obtained. It is of course best to sow the seed of the larger varieties, but I have this word of caution to farmers — don't pay fancy prices for any new or extraordinary kind of clover. The largest clover advertised by clever agents is nothing but a big form of the common Red clover. If you can get seed of the big kinds at fair prices, sow that by all means, but otherwise sow clean seed of common Red clover. If you enrich your soil sufficiently,

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you will be able to grow your own Mammoth Red clover from common seed.

White Clover (*Trifolium repens*).—This clover deserves to be better treated than it commonly is on farms in the northern states. It is not a hay plant, but is pre-eminently a pasture plant, and as such only should it be grown. In many places there is an unjust prejudice against it, but this will die away as its real merits become better known.

Alsike Clover (*Trifolium hybridum*).—Of this clover I have little to say. In some localities it is useful, but I must confess to much disappointment with respect to it.

Alfalfa or *Lucerne* (*Medicago sativa*).—In some localities where it does well, there is no clover which will yield more per acre than will Alfalfa. In the west (the Rocky Mountains and westward) it is the great fodder plant, yielding under irrigation, three and even four crops per year. In parts of Wisconsin it will doubtless do well.

CONCLUSION.

In conclusion allow me to urge upon you the importance of a careful study of the problem of the best grasses and forage plants for your farms. With respect to grasses it is as with crops a wise thing to grow of several kinds. In fact, it is best to mix the grasses in the meadows, and especially in the pastures. In this, however, due regard must be had for the earliness or lateness of maturity, if the mixed crop is to be cut for hay.

LINCOLN, NEBRASKA, Janaary 30, 1890.

HORNED DORSET SHEEP.

BY MRS. THEO. L. HACKER.

This breed belongs to the medium wool sheep, bred for many years in Dorsetshire, Eng. They are straight, deep in body, ribs well arched, loins broad and neck well set on, full in the shoulders without coarseness and the hind legs well let down toward the shank, forming a good leg of mutton. The general appearance is pleasing, head well up,

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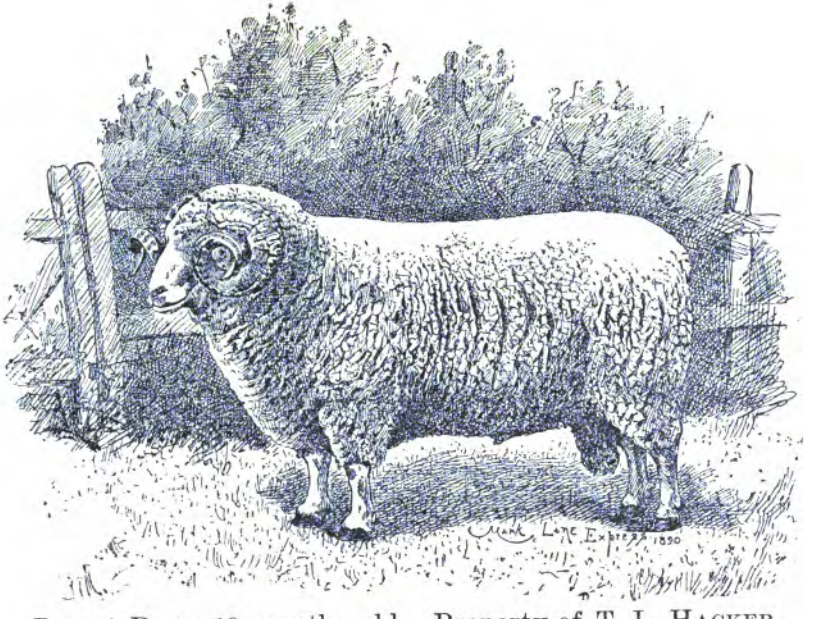

Dorset Ram, 18 months old. Property of T. L. HACKER, Cottage Grove, Wis.

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horns thin with a symmetrical curl, the eyes quick, lively and intelligent, face rather long and thin and nose and lips pink or flesh color. The bone is small, giving all the appearance of a hardy and useful breed of sheep. They are easily handled, being quiet and peaceable, and the mutton unexcelled by any. Originally they were very hardy, capable of subsisting on scanty pasture and were remarkable for their prolificacy being excellent nurses. They have, in the last few years, by better feeding, care and careful selection by eminent breeders doubled in size, proof and weight of wool. Success has attended their efforts to such an extent that the Dorset Horned lambs arrive at maturity even earlier than any other breed.

A very successful breeder of this class, Mr. Darby, says: "I have ewes in my flock who produced two lambs last spring and have again produced, each, two lambs the past fall, and will again lamb this spring. The lambs are very thrifty and grow rapidly.

Prizes are offered each year by the Dorsetshire Agricultural Society to the shepherds who shall rear the largest number of lambs with the least loss of ewes. Mr. Darby gives a list of the competitors, of 3,547 ewes only sixty were lost and they lambed 4,427 lambs, or 125 per cent. of lambs, with a loss of 1-6 per cent. of ewes.

That mature sheep weigh well is shown by the following: "On January 4, 1887, we weighed a pen of five yearling ewes and they weighed 980 pounds, in fair breeding condition; a pen of three ram lambs at nine months weighed 540 pounds; one ewe lambed the 11th of December and on March 19 weighed 105 pounds."

The wool of the horned lamb is much prized on account of its whiteness and the fine point it posseses. The yearling rams give fleeces from ten to twelve pounds, the ewes about six (this is when washed).

The Dorsets compare favorably with any of the Down breeds. The sheep combine an aptitude to lay on flesh so as to promote early maturity to an astonishing extent without impairing, in the slightest degree, fertility, which from

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time immemorial has been the leading characteristic of the breed.

Their good qualities are becoming known and large numbers of flock masters have given up the Downs in order to keep Dorset Horns, which they consider the best rent payers and most prolific.

With Dorsets, two lambs at one birth is very general; triplets not uncommon. Mr. Chick, a Dorset breeder in Dorsetshire, England, says, "I had an ewe in my flock of 450 that produced six lambs on the 15th of December, 1864; five were born alive while four lived and were healthy. This ewe was five years old at the time and had previously presented her owner with three lambs at a birth for three consecutive years, making a total of fifteen lambs from one ewe in four years."

Another instance is that of a Dorset ewe belonging to Mr. Charles Horrell, near Winchester, which had three lambs on the 27th day of January, 1889. These lambs were reared in the open field with the rest of the flock, and had no milk beyond what the mother supplied. When these lambs were eleven weeks and two days old they were sent to Winchester market and sold for 47 shillings each, or £7 1s. for the three lambs.

During last May and June, 25 young lambs were sold in the fat stock market in Dorchester at an average price of 38s. —$9.50 of our money. As the dams of these lambs were at that time not more than 18 months old, it proves the early maturity and prolificacy of the Dorset horned breed.

An experience of 40 years, Mr. Chick, of Dorsetshire, says that no animal will give a better return for food consumed than a Dorset horned ewe well fed and properly treated.

Mr. T. S. Cooper, of Linden Grove, writes me that he has lambs, six to eight weeks old, that weigh from sixty to seventy-five pounds, and I have one six months old that will weigh nearly 100 pounds, and so far the lambs, from

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the Downs or Merino ewes, show a remarkable likeness to the sire, a fine two-year-old Dorset ram.

Unquestionably, they have a bright future before them, being wonderfully adapted to this climate.

TO EDUCATE THE FARMER.

USE THE PUBLIC EDUCATIONAL SYSTEM FOR HIS BENEFIT.

The following address by D. H. Talbot was prepared specially for the stockmen's convention at Sedalia, Mo., January 15, 1890.

From the earliest times, and during all ages, we learn that the educated classes in power have, notwithstanding their apparent good will at times toward their uneducated menials, evidently not desired the education of the masses.

If at any time through the earnest work of some reformer there was secured sufficient public clamor for a given amount of improvement in the form of education, it was nearly always destroyed by the addition of rites and ceremonies, which in the main gave the clergy a monopoly of the masses and in the interest of those who were in power —being the wealth and aristocracy. Derision, calumny and persecution was the reward for the labors of any one who attempted to correct the abuse and secure a more general education. Until our own grand public schools were enacted, but little for education had been done, and this to-day is the grandest monument of our national strength, far more worthy and formidable than ironclads, and which is and will be our security against all injury if the good offices made for us by this system shall be taken advantage of. In the education of the masses through our public schools, we have but to deal with the children, yet these children hold the same relative position to the educated adults as the farmer, without any possible knowledge or show of obtaining knowledge of the secrets of the manipulations of the markets, does to the business man, who,

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backed up by the business education and wealth, aye, aristocracy of his class, does all in his power to keep the farmer beneath him, that the labors of the farmer should be at all times to the end indirectly in the interest of this plutocracy.

If, then, this is a logical conclusion, and the evidence given us by the workings of the ages of the past, why not then make further use of the good public educational system for the more general giving of business knowledge that the farmer may be benefited? To bring this about the question may be asked, how may this done? In general the one word statistics will cover it. Ordinarily this is considered a very dry subject, but once studied it mellows down to a very interesting and agreeable one.

As I receive my various papers since the first of the year I find that those from the cities are teeming with delight that a given number of thousands or millions of dollars' worth of improvements have been made during the past year, and in looking over my agricultural papers the same old story is given — lack of enthusiasm, poverty, discouragement, if not actual contentment with the farmers' unfortunate position. Why should this state of affairs exist? There seems to me no need of such subordination. The several millions of farmers and farm helpers of our country are really the class who know less of business methods than any other, and yet they have more in interest than the merchant plutocracy. Take it to-day; likely we all have live stock of some kind which we are depending upon to make good some want. We keep feeding away, caring for this stock perhaps for months, not knowing in the least what we may have to sell for, and still it is quite evident that the man to whom we will have to sell is well aware of precisely the number of pounds of dead meat in the world, and approximately the amount of live meats as well, so that he controls us by giving us just what he deems best to keep us still in subjection, that we may return home and work an extra hour or more per day to make up the loss, while the chap in the city who, with the merchant, reaps the

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benefit at our expense, demands that he will shorten his day's labor as we add to ours.

We are advised by the merchant economists to not go into debt, to economize; to labor more, to show more thrift; yet come to investigate we find that they do not do these things, but in fact the reverse. They have good things as they go, they go into debt and show wisdom, for in this case they get cheap eastern or foreign money earned by cheap labor, and charge us at the rate of dear money, because we know no better, and as earned by us with dear labor, they taking the benefit of the two means in their horses and carriages and other fixtures regardless of expense. More could be said on this subject, but suffice.

How can we supply the method of statistical information to our benefit? First we should demand of congress that a statistical bureau should be established having the very best farmers in our respective localities to keep continuously at work making estimates of the amount of weekly or monthly gain or movement of the grain and meat product. At least once a month this report should be made to the state or government office at Washington, to be again sent out in a generalized form, with the addition of the government's report of consumption and prepared meats in packing and store houses as near as possible for the month previous, to each postoffice and there kept in public view for the farmer and others. It is my opinion that these local inspectors or statistic gatherers should be controlled and subject to examination by a board of capable examiners; it would be of great benefit. To explain, to utilize statistics in its relation to stock, there is what might be termed the arithmetical or numerical mean giving solely the number and depending upon a chance system of averages to determine the product value; or on the other hand the geometrical plan of considering the age, weight and quality of each general grade in each locality, thus giving us, by the accurate monthly estimate, just what might be depended upon us as a basis for the grower. To start the system it might be well to base our calculations on the arithmetical basis,

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but it is quite certain that the other method would be preferable and more valuable and is just what is desired. Taking this second method for use in our own country and then that the government should also include in its monthly reports the movements of produce from our competitors in other parts of the world towards the markets in which we would meet this produce, we begin to have some basis upon which to grow our stock and feed for market, that there might not then be the continuous harping to us of an over production when, in fact, there is none, but instead a shortage. The cry of cheap meats being in the interest of the exporters who control the shipping and the fellow packer who well knows if he can keep live meats cheap it will not require so much capital to carry on his millions of trade, and consequently he will net more profit, because, not having to pay as much interest as when live meats were higher. We observe that in some localities there are societies of stockmen who have organized schools for the purpose of educating themselves in the art of the proper just grading or judging of stock. Can there be a more worthy object?

And let us see how this will help out the farmers, should our government conclude, as she surely must, to grant us proper statistical value for our products. These government inspectors should be the men, just, unapproachable, without purchase, men who have passed the required examination before a board recognized as an authority. These examiners and reporters shall only pass judgment upon the quality of the animals as they will be recognized in the market, not to conform to any particulars type of steer, or hog or sheep, but simply to grade them as they will have to meet their competition in open market. A system of gradation can soon be agreed upon and this information in turn given to our farmers by these educated inspectors would soon do away with our inferior stock which is now such a pest.

Our Minnesota scrubs and Wisconsin pine knots with the Florida pygmies and other like inferior stock would soon be unheard of, and instead the improved stock of the various

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breeds would be the only meat product we would have to dispose of, and consequently the frozen meats of the scrub cattle in other countries would cause but little competition.

I think we have reached a stage in our national development when these government reporters and instructors are essential to the proper sustaining of our farming interests. The financial strength of our country is dependent upon the farmer. To do that which causes the farmer to make the most out of his farm is for the interest of all, then why not demand the aid that we require? The secretary of agriculture is in sympathy with the movement of securing statistics, the establishing of a statistical bureau and the hearty co-operation, for the assistance of the farmer, then why can we not by communicating with our congressmen secure through them substantial aid for the establishing of this educational bureau? As rightfully do we need this as the children do the public schools. Our opponents will be as the "divjners and jugglers" of olden times, whose aim was to keep the masses uneducated that the educated few might the more easier prosper. Something must be done, then let us up and do it. It is right, just and will be profitable, making us the peers of any people, whereas now we are on a par with the naked, ignorant slaves recently freed in Russia and other countries with whom we must compete.

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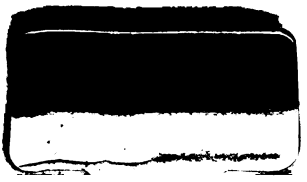

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